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ORIGINAL ARTICLES.

A METHOD FOR RADICAL CURE OF VESICO-VAGINAL FISTULA WITHOUT LOSS OF VESICAL TISSUE.

BY R. F. AMYX, M. D., of St. Louis, Missouri.

Without reviewing the various methods that are now in vogue or those that have been employed for the repair of vesico-vaginal fistula, I will briefly describe a method that I employed in one case at St. Mary's Hospital, December 17, 1902.

The patient is put in the lithotomy position. A Simms' speculum and two lateral vaginal retractors are used in order to dilate the orifice of the vagina. The fistula is grasped by a small tenaculum and pulled toward the vaginal orifice. A probe is then inserted into the fistula so that a guide is furnished to facilitate the dissection of the tract. After ascertaining the direction of the fistulous tract (Plate 1–*A*), a circular incision is made around the opening of the fistula at a point about one-fourth inch from the opening. (Plate 1–*B*.) This incision is made so that it should include only the mucous membrane of the vagina. (Plate 1.) The latter is dissected up from the underlying connective tissue toward the vaginal opening of the tract. After dissecting the circular vaginal flap, the next step is to free the tract itself as it passes from the vagina towards and into the bladder. (Plate 1–*B* and *B*.) This is done with a bistoury or a pair of sharp-pointed scissors. Great care should be exercised during this procedure lest the mucous membrane of the bladder is cut. (The dissection should only go to the mucous membrane of the bladder.) The fistulous tract should not be opened at any point, as it would make a condition that would lessen the efficiency of the operation.

After being satisfied that there is no attachment between the tract and the surrounding tissue, excepting the mucous membrane, *i. e.*, as little of the connective tissue at the vesical end of the fistula as possible, in order to steady the bladder two anchor sutures (Plate 2–*CC*) are placed on either side of the fistulous tract at the origin.

The next procedure is to convey two sutures through the vesical opening of the tract into the vagina. This is done by arming a long female metal catheter (Plate 3–*E*) with a No. 2 catgut suture (Plate 3–*F*), passing it through the urethra into the bladder and then through the fistulous tract into the vagina. After securing the suture in the vagina it is divided. One of the vaginal ends is then placed on a Kelley's needle and passed through on one side of the end of the dissected tract. The other portion of the suture is similarly placed. The last mentioned suture (Plate 4–*F*) should be placed so that any tension on the ends which lie outside of the urethra will invaginate the end of the tract The suture represented by D, is placed so that the end of the tract can be invag-

inated without disturbing the entire tract (Plate 4–*H*). This being accomplished, two No. 1 catgut sutures are passed through the end of the invaginated tract. The tract is invaginated a little more and another No. 1 catgut suture is placed,

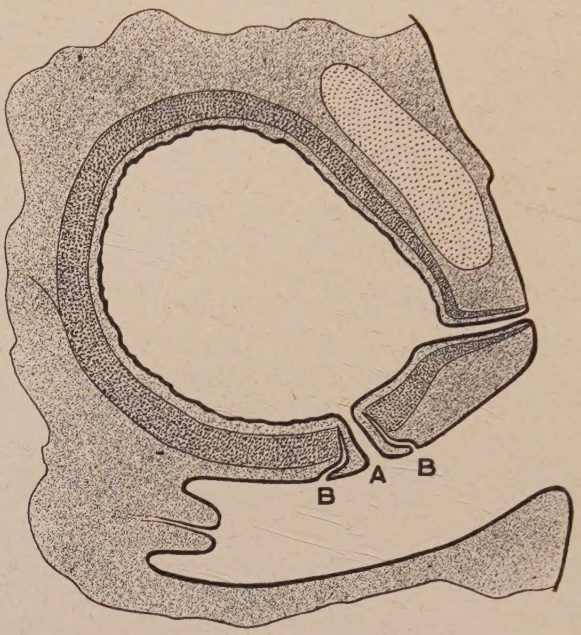

PLATE 1.

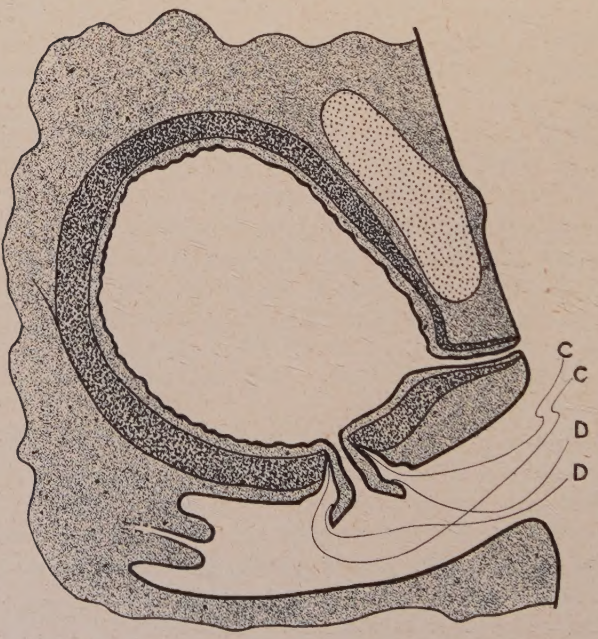

PLATE 2.

the number of sutures in the tract being regulated by its length. (The anchor suture is removed as the invagination is completed.)

After the entire tract has been invaginated, several buried catgut sutures

are placed at the end of the tract. (Plate 5.) These include the connective tissue at the base of the invaginated portion. The invagination of the tract is greatly facilitated by making tension on the vaginal anchor sutures (Plate 4–*D*

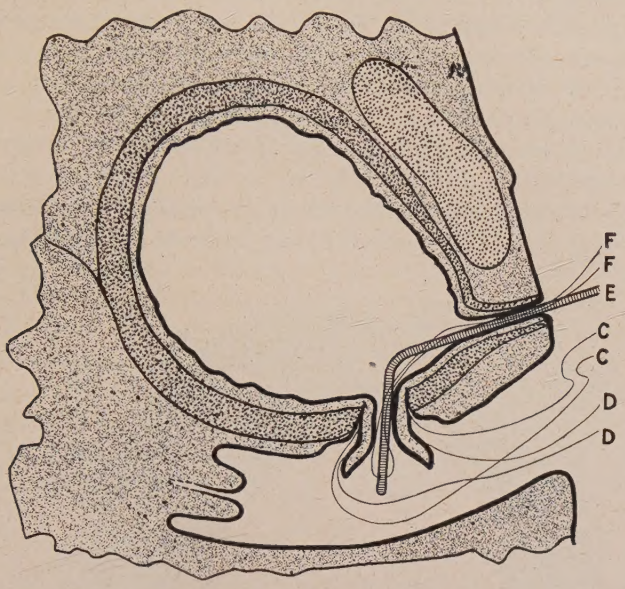

PLATE 3.

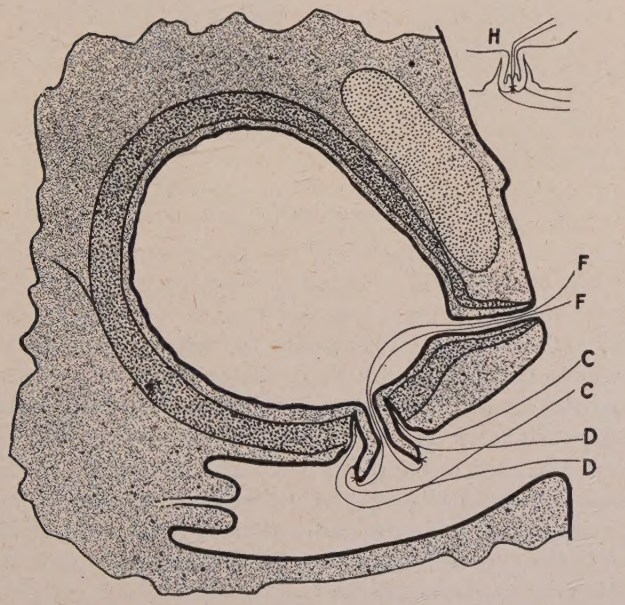

PLATE 4.

and *C*) which were placed before the invaginating sutures (Plate 4 *F*) were placed. The denuded surface in the vagina is closed with interrupted silkworm gut sutures, the line of sutures being on a vertical plane, as suturing in this di-

rection gives a better support to the underlying buried tissues. The sutures which pass through the urethra are fastened on the pubes with adhesive plaster. (Plate 5–*F*.)

The above described method is referable to small and medium sized fistulæ. In large openings of one-half to one inch diameter I would recommend that the dissection of the circular vaginal flap should commence at a point one-half inch from the edges of the opening of the fistula. This will provide for a tract long enough for invagination and with freshly exposed surface for a closure of the fistula. The technique is the same as that described above, excepting that the vaginal flap is considerably wider.

The after-treatment consists of inserting a retainable soft rubber catheter in the bladder for drainage. The patient lies on her side and abdomen alternately.

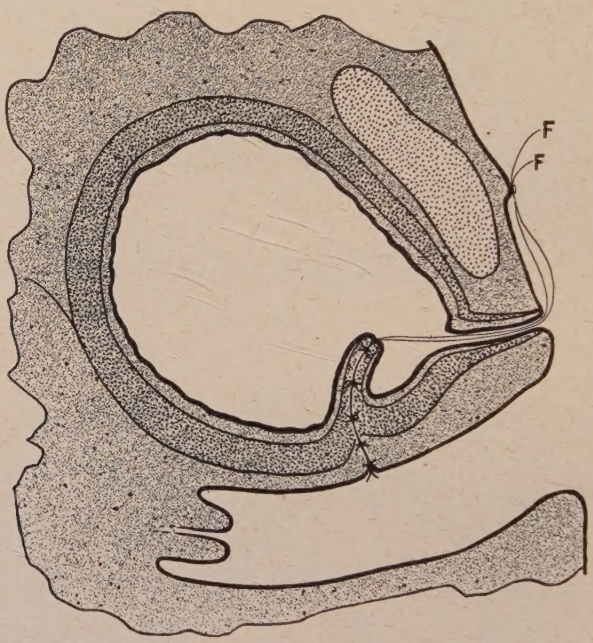

PLATE 5.

The rubber catheter is cleansed by irrigating the bladder with a small quantity of 2 per cent. boric acid solution two or three times a week. The catheter should also be moved at each irrigation. At the end of fifteen days the interrupted silkworm gut sutures in the vagina are removed. The catgut anchor sutures, which are attached to the pubes become absorbed on the fourth or fifth day, and are easily removed without disturbing the invaginated portions. Some difficulty is experienced in removing the retainable, soft rubber catheter, as it is liable to become imbedded in urinary deposit and become quite firmly fastened to the mucous membrane of the bladder. This condition can be overcome by cocainizing the bladder or by giving a general anesthetic and inserting a Kelly's cystoscope into the bladder, first allowing the end of the catheter to pass through the cystoscope. An irrigation of sterile water is allowed to flow quite forcibly into the bladder through the cystoscope in order to wash away the urinary sedi-

ments which may have collected about the enlarged portion of the catheter. The catheter is then rotated in order to loosen it from mucous membrane. It is then removed by pulling it into the lumen of the cystoscope. The cystoscope should be inserted a second time and all particles of incrusted urinary sediment should be washed from the bladder.

The conclusions I wish to emphasize are as follows:

1. There is no loss of vesical tissue.

2. A portion of the vaginal mucous membrane is used to lengthen the tract so that a long invaginated tract can be obtained.

3. The large area of freshly exposed surface is obtained for the process of repair in the invaginated portion.

A review of the literature dealing with the various methods used in repairing vesico-vaginal fistula does not reveal any mention in which a portion of the mucous membrane of the vagina was used to lengthen the tract of the fistula so that a perfect invagination could be made, nor where the tract was kept elevated by means of an anchor suture being fastened externally to the pubes.

In conclusion, I wish to thank Dr. Francis Reder for the courtesy of reporting the two cases occurring in his practice, and also for the valuable services rendered on the occasion of my first operation, December 17, 1902.

THE HEALING OF GRANULATING SURFACES BY APPLICATION OF COBALT-AURATE ANIMAL MEMBRANE.

By Warren B. Outten, M. D., of St. Louis.

It can be asserted with truth that notwithstanding our knowledge of the process of repair upon granulating wound surfaces, the manner through which healing is produced, and the means applied in the local treatment, that it is broadly diverse and still remains a problem of uncertain time and mixed results. While physiological rest is the great factor in healing, the ways of obtaining this rest through various agencies used, show that the surgeon is still uncertain as to what is the best, since no treatment so far employed has been markedly and broadly efficient over and above the great diversity of means as at present used. We know that a new and temporary tissue of embryonic type constitute granulation tissue, and this acts as a scaffolding or temporary structure, which aids and promotes the construction of more permanent tissues. Granulation tissue is produced entirely by the activity of cells; these cells may be single, polyneucleated and wandering, resembling embryonal cells when functionally engaged and are then called formative tissue cells.

These cells assume a multitude of shapes, being drawn towards the point most needed perhaps by a chemotactic activity. Then there appears an intercellular substance becoming fibrillated, then we have a new connective tissue formed of cells of mesoblastic origin, differing from the epithelium around the margins which subsequently cover the granulated wound. Normal granulating wound surface consists of numerous minute projections known as granulations, being composed of the tissues above described around a budding capillary vessel. This capillary budding is the result of karyokinetic activity upon the hypoplastic cells of which it is mainly composed. Endothelial activity is due to new cell

formation, and the construction and projection from the capillary which attains the dignity of its parent vessel. Connective tissue cells forming around a capillary loop forms the granulation.

Healing, then, by the granulating process is the formation of hundreds or thousands of granulations. New granulations are formed on the top of those which precede them. The first formed granulations being deeply seated undergo condensation and metamorphosis of tissue, being converted into something high in tissues. Epithelium reproduction around a granulating surface margin, along with granulation tissue effects, becomes possessed of epithelium covering and thus it is the healing process is completed. Unfortunately these two processes do not keep pace with each other. When surface repair takes place too easily we have a depressed scar. If, on the other hand, surface repair is slow or too halting, we have exuberant granulations which are spoken of as fungoid or proud flesh. Epithelium can have no origin save from its like, and must be supplied from regions where it has pre-existed. Epithelium activity at times becomes retarded. It is always slower at the termination of the healing process than it is at the beginning. It is a daily history that after a certain amount of this repair the processes may come to a complete halt; such then being the fact, means of stimulation and promotion, such as skin grafting, etc., must be devised in order to accomplish the desired result.

The first effort in the formation of granulating tissues, as before stated, is a trelliswork of temporary and delicate cell structure, placed in a certain amount of intercellular homeogenous substance. Budding capillary loops causing the surface of the wound to mount nearer and nearer to a level of its epithelial border. The most common result in granulation is its metablastic conversion into fibrous tissue, possessing contractility without elasticity. When we have loss of substance this fibrous tissue resulting from metablastic conversion results in contracting scars. Now, then, have we any means beyond position, extension and grafting to overcome or minify the continued cicatricial contraction of a wound healed through the granulating process?

The writer is uncertain whether it is possible to supply through granulations such a thing as cell nutrition, aiming thereby to replace as much as possible the loss of substance which has come with the infliction of the wound, and which must be healed by the granulating process.

We are well aware that epithelium can have no origin save from its like, and must be supplied from where it has pre-existed. Hence, if we can supply nourishment to the granulation cells, we can replace to a certain extent the loss of substance and have a less contracted scar. It is natural to suppose that if we can supply the essential chemical elements which make an increase in growth of granulation, we can form a more perfect phase of healing by supplying these chemical solutions which somatically and biologically exist in live animal tissue.

Let us continue and speak of the manner and the means which are at present locally used in the treatment of granulating wound surfaces. We will not burden you with any views concerning constitutional treatment of granulating surfaces, since we know the general treatment is very rarely demanded when we are dealing with healthy granulating wounds or ulcers. The study of a granulating wound surface or ulcer comprehends in it the study of constitutional conditions and necessary constitutional treatment.

It is the writer's purpose to speak especially of the local treatment of gran-

ulating surfaces in their acute condition, whether following the immediate infliction of a wound or the conversion of a chronic surface into an acute one. We know that physiological rest is the great basic element in their treatment—complete repose or as near complete repose as can be obtained through the application of splints, confinement in bed, rest through temporary paralyzation, rest through aseptic and antiseptic protection of granulating surfaces.

It is true that in absolutely healthy and normally healing surfaces but little treatment as a general thing, except protection of the surface, is demanded. When the epithelial covering of a granulating surface keeps pace with the filling of the depression by granulation, all that is needed is to prevent external irritation from various surrounding sources. The prevention of contamination and consequent putrefaction by ordinary bacteria in the air, etc., protective septic and antiseptic covering and absortive dressing must be employed.

When temporary and halting healing becomes manifest, various stimulating agents, zinc, chloride, silver nitrate, etc., are applied to spur sluggish granulations to normal action. Watery solutions and unguents constitute the general means heretofore used; under the head of water solutions many agents are comprehended. Under the head of unguents all imaginable combinations of soluble and insoluble antiseptics are used in connection with various excipients like vaseline, lard and lanolin.

The writer is of the opinion that unguents should never be used in the treatment of granulating wound surfaces, since they court conditions which retard healing, since their repeated application and removal do not carry out the idea of physiological rest, as frictions of various intensity are required for the removal of ointments. Aqueous solutions permit easy and efficient washing of surfaces. Balsamic preparations are of use, especially in specific forms of ulcers. Now, I believe it is common sense to maintain that the dressing which adapts itself most perfectly to the factor of rest is the best treatment for acute granulating wound surfaces. It is not in the scope of this paper to determine the value of numerous peptonized preparations, but to treat of the best manner the least complicated of these surfaces can be treated.

Again, let me repeat, that if we can supply chemical elements which naturally enter into the biological formation of the granulation tissue by some allied tissue, we will accomplish a better result. This was the thought when we first commenced these experiments in healing granulating surfaces by the application of sterilized and chemically treated animal membrane.

I have experimented in various ways for the past four years with what is known as gold beater's skin, which is made from the outer coat of the cecum of the ox. This outer coat is stripped off in lengths of twenty-five or thirty inches, and freed from fat and other substances by dipping in a strong potash solution and being thoroughly scraped with a blunt knife. This membrane is remarkable for its extreme tenuity and strength. It is susceptible to the broadest and most perfect dissemination of various chemical substances within its cellular meshes. Realizing from the beginning the suspicious history and doubtful antecedents of this membrane, it became manifestly imperative that the most powerful and complete sterilizing agents should be used in order to make it safe to apply to wounded surfaces.

In order to make my ideas perfectly clear I will proceed to show the manner in which the gold beater's skin is prepared for wound treatment of the granulating class.

Large and perfectly cleaned sheets of gold beater's skin are selected. The sheets thus selected are put in hot sterilized water—not boiling water—water sufficiently hot so as to not interfere with the texture of the skins—from 98° to 100° F.—a stream of hot water preferred. After having remained in the hot water sufficiently long so as to cleanse them they are then taken from the hot water after being squeezed as free from water as possible. A solution having been made of the following agents,

℞ Cobalt chloride ..... ℥ j
Gold chloride ..... ℥ j
Aqua distil ..... ℥ x
M.

is now ready, the skins are now put in this solution so that the solution perfectly covers the skins in whatever container is used.

After the skins have been put in the container holding the cobalt aurate solution, two ounces of the oil of cassia is poured in on the skins now immersed in the cobalt aurate solution.

The reasons for using the solution herein mentioned have come in consequence of lengthy experience extending now over four years. It is necessary in the chemical treatment of the gold beater's skin to use substances which will not rob this animal tissue of its integrity nor interfere with its elasticity. After experimenting with various chemical salts, namely the chlorides, I have found that the combination of the cobalt chloride with the gold chloride will keep the skin in good condition indefinitely. The bichloride of mercury has a tendency to destroy their texture. The treatment of granulating surfaces with the gold chloride and the cobalt chloride has received no attention.

The gold chloride, according to Dr. Chrestien, is even more active than corrosive sublimate. M. Chauvaunes claims to have used chloride of gold as a caustic in lupus, in syphilitic tubercles and ulcers with good results. That it is a powerful antiseptic and germicide there can be no doubt. The chloride of cobalt is a mild antiseptic, but its combination with gold certainly gives a combination which, when locally applied, has no tendency to produce systemic conditions. I have used the cobalt aurate treated skin almost exclusively and have never yet observed any harmful effects, either constitutionally or locally. We know that the oil of cassia is a germicide equal, if not superior, to the bichloride of mercury.

We are driven to the conclusion, then, that when we prepare this animal tissue (gold beater's skin) as above indicated we have absolutely sterilized membranes. If there should be any doubt in the premises the bacteriologist can through culture mediums demonstrate in fact their aseptic condition.

After these skins have been put in the cobalt aurate solution they turn a dark purplish hue, mottled in character, showing a deposition of the chemical salt within the cellular meshes of these membranes.

The sheets of gold-beater's skin thus prepared are kept in a wide-mouthed, glass-stoppered container, immersed in the chemical solution of oil of cassia, as above mentioned. When the membranes are used upon a granulating surface the following is the method indulged in: A piece of the treated membrane of sufficient size to well cover the entire granulating surface is cut. This piece is applied to the granulating surface after the following course is pursued: It is

put in alcohol and allowed to stay in the alcohol from three-quarters of an hour to an hour. It is then taken out of the alcohol and put into hot water from 98° to 100° F. The membrane is put in the alcohol for the purpose of removing any excess of the oil of cinnamon, thus preventing heat and pain likely to come from the irritating stimulation of the cinnamon oil. After the membrane has remained in alcohol sufficiently long, and then put into the water to remove the excess of alcohol, the skin is then dried by putting it between the layers of a sterilized towel or cloth. A few punctures are made through the membrane, which is now applied to the granulating surface; the membrane thus applied is now covered with six or eight layers of sterilized gauze. Another piece of membrane is then applied on top of the gauze large enough so as to strain the air in its access to the wound. The membrane thus applied on the sterilized gauze need not be put in the alcohol, but simply squeezed between the folds of a cloth so as to remove the excess of the solution contained on the membrane. Now there is put on this membrane a layer of sterilized cotton, and then a retaining bandage applied on the top. It will thus be seen that a needed and well-timed discipline is herein indulged in in the application of this cobalt aurate membrane. The dressing thus applied to the granulating surface is allowed to remain intact for at least forty-eight hours.

I do not doubt that experience may indicate that the dressing may remain a much longer time, but I have deemed forty-eight hours as sufficient for the reason that after the application of the membrane there oftentimes comes an enormous exudation, completely saturating the dressing, and this exudation is serous in character; hence, when saturated, it should be removed. I have demonstrated constantly that within twelve or fifteen hours after the application of the cobalt aurate membrane upon any granulating surface, the membrane in contact with the granulation is completely absorbed with no vestige remaining. This is found to be invariably the case. No dressing which has been applied to a granulating surface in all the category of agents which I have used appears to be the equal of this dressing in stimulating the granulation.

My experience has extended over nearly thirty years in the treatment of these cases, and in the hospital over which I preside there is an average of from fifteen hundred to two thousand cases of granulating wound annually treated; hence the impetus given to study this character of healing has been constant and unceasing, and naturally I have indulged in any suggestion deemed of merit; and yet with this experience better results have been obtained in the brief time this form of dressing has been used than by any other known means I have ever employed. After the first application of the cobalt aurate membrane to granulations they assume a bright, vivid, healthy hue (bright as blood can make them), looking firm, erect, even and healthy. Besides this, the epithelial border appears to be stimulated in a remarkable manner. It is readily demonstrable that after the application of the cobalt aurate membrane a minimum amount of interference with the granulating surface is indulged in. There is no necessity of friction in cleansing the surface as when unguents are used. The lightest touching of the granulating surface when cleansing seems to be sufficient.

The chemical agents contained in the meshes of the cobalt aurate membrane are deposited on the surface of the granulation, thus making it a most excellent means to obtain the effects of any chemical salts with which the membranes may

be treated. Each dressing of the wound demonstrates that this manner of treatment is in a line of physiological rest and non-interference, since, as stated above, the membrane is absorbed and abundant exudation enables the dressing to be removed without interfering with the granulation. Experience has shown that the membrane can be made perfectly aseptic; such being the fact, its adaptability of treating all granulating surfaces are manifest. As a means of stimulating granulations I believe them superior to any method yet devised.

As an aid in the perfect establishment of skin-graft it is an ideal method, whether we use it in the Reverdin or Thiersch method. In the Thiersch method, when used with the membrane, every graft appears to live and flourish. When the Thiersch method is used, the granulating wound surfaces and grafts are prepared with the saline solution as is usually done. The cobalt aurate membrane is put in alcohol the same as in the treatment of granulating wounds. It is washed out with hot water, and then put into the normal saline solution until it is thoroughly soaked and permeated. After the grafts have been applied to the granulating surface, from one to four perforated cobalt aurate membranes are applied. I generally apply two membranes, and after forty-eight hours, upon examination, the grafts will be found in a healthy condition and adherent to the granulation. The salt-water cobalt aurate membrane again applied for another forty-eight hours. After this time the regular alcohol-treated membrane may be applied. When these grafts are applied upon a fresh curetted surface with treated membranes in position, great impetus to the healing process is manifest.

That granulating wound surfaces heal rapidly under this process is demonstrable to any one who will apply the membranes as indicated under the discipline as planned. I am of the opinion that granulating surfaces healed in this way are less likely to make depressed scars than by the ordinary process, and believe the healed surface possesses elasticity and is not nearly so contractile. From experience thus far, I am forced to the belief that this process has decided advantages over any process yet suggested. As to the best method of preparing these animal membranes (meaning gold beater's skins), time alone can tell, but thus far the cobalt aurate membrane does certainly meet unusually well all indications. The only objection I have found in this form of treatment is that the cobalt aurate membrane arouses granulations to excessive growth, but no difficulty has been found in managing these excessive growths when I substitute the soaking of the membrane in a normal saline solution and apply pressure. I regret that my experience in the Reverdin process will not allow me to speak with any degree of authority.

Finally, this process of treatment with animal tissues thus prepared may have many faults which time and experience will show, but thus far their virtues exceed in a great measure any faults. I have never had any constitutional effects from the local application of this treatment, and it has been applied to all forms of granulating wound surfaces. It is certainly, thus far, an advance over the older forms of treatment. I now leave it in the hands of the medical profession with the firm belief that it will indicate that it possesses decided merit.

In the use of it by thoughtful and intelligent practitioners any faults it possesses will be eliminated, and its virtues increased and its use broadened in many directions.

CEREBRAL SOFTENING OR ENCEPHALOMALACIA.

By John Punton, M. D., of Kansas City, Missouri,

In medical nomenclature there is no term subject to more careless use and misapplication than softening of the brain. While this may be confined largely to the laity, yet it is not uncommon to find medical practitioners guilty of the same error.

As commonly used and applied, the term softening of the brain designates a chronic general mental failure which is understood to mean a condition synonymous with dementia or general paresis. The popular belief is that in some mysterious manner general degeneration or softening of the brain results from strain, anxiety, overwork, dissipation and similar causes which lead to serious nervous and mental disturbances, but not to true organic changes. In the scientific medical sense, however, the term is restricted to retrograde changes in vascular territories of the brain, occasioned by arterial obliteration in which the vessel lumen is partially or wholly occluded, resulting in a deprivation of blood to parts affected with consequent secondary changes. It is, therefore, in its inception a local pathological organic process similar to that of infarction, but instead of reducing the brain power and capacity as a whole, it destroys specific brain functions.

Some care must, therefore, be exercised in the use of the term by medical men lest it convey an erroneous impression of the future course of the disease. Formerly it was also believed that the softened atrophic area was due to inflammation or some similar morbid process, but today we know that the immediate cause is due to arterial occlusion incident to pathological vascular changes.

Widely disseminated foci of softening may, however, be present in a brain as the result of widespread arterial disease; but all forms of acute softening are local in origin, while the affection may be single, diffuse or multiple in character. Moreover, arterial obliteration does not always lead to softening, in which case the parts affected by the occluded vessel are nourished by neighboring or anastomosing vessels. In such cases there would be anemia, and malnutrition follow as a matter of course, but necrosis may not necessarily be a result of such injury. While the disease at times may be limited to the acute stage, yet in the majority of cases of cerebral softening the pathological condition becomes chronic and more or less permanent.

Brain tissue may disintegrate and soften as the result of various morbid processes, but the chief causes of cerebral softening are:

1. Occlusion of arteries as the result of embolism and thrombosis.
2. Pressure from growths, tumors or compression in other ways.
3. Softening which accompanies encephalitis.
4. Occasionally softening may be due to occlusion of veins, but such an origin is rare.

Chronic softening may, however, result from other processes, according to Wernicke and Gowers, as both claim we may have chronic progressive softening

without obliteration of blood vessels; but these views are subject to future verification. When a cerebral artery is occluded from any cause, the first effect usually is to cause anemia of the territory supplied by affected vessel. Later the tissues degenerate, which is followed by necrosis, and white softening is produced.

If the strangled area becomes suffused and infiltrated with blood, the hemoglobin is added and red softening appears. Finally, as resorption takes place and degeneration becomes complete by the conversion of the blood into pigment, a yellow color is imparted to the softened foci, giving rise to yellow softening. Hence, three forms of softening are recognized, viz.: white, red and yellow; but these are simply different stages of the same pathological process, and not separate and distinct morbid entities. White softening, however, is not necessarily followed by the red and yellow changes (as these depend almost entirely upon the amount of blood present in the affected area). But red softening when present always represents an early stage of the disease, and appears, if at all, in a few hours or few days; hence, it is an acute process, while yellow softening does not appear short of a few weeks and is, therefore, more particularly a feature of chronic lesions. A fact of practical bearing, however, is that nerve cells, when deprived of their nutrition for forty-eight hours, are permanently ruined. Ordinarily, after occlusion occurs, the surrounding tissue degenerates, and in a few hours or days, at best, white softening supervenes. The softened foci then become infiltrated with serosity, while the cellular and neuroglial elements become granular; at the same time the degenerating focus shrinks, causing a depression which becomes filled with a turbid milk fluid which contains myelindroplets and numerous granular cells, the presence of which are said to be the best means of distinguishing true softening from post-mortem maceration.

In some cases the softened focus becomes infected, as by an embolus, from infectious endocarditis, and a true encephalitis is thus developed. This rapidly goes on to abscess formation, frequently with putrid, offensive gangrenous contents. In favorable cases, however, where such infection does not occur, the degenerated tissue undergoes a process of repair by which the softened focus becomes encapsulated; cicatrization then ensues, and a scar is left to mark the location of the vascular lesion.

At the seat of arterial obliteration from local thrombosis we find in recent cases a partial or complete organization clot, which is adherent to the surrounding tissue. It may consist of various substances, but often proves a fruitful source of supply for the formation of emboli.

Foci of softening are found in all parts of the brain, hence the location is various, but they seem to prefer chiefly the cortex, and this is accounted for by its having the largest surface. As the occluded vessel producing the softening is due chiefly to an embolus or thrombus, it is the nature and character of these two etiological factors that we are necessarily compelled to recognize as supplying us our most unique information concerning the pathogenesis of cerebral softening.

It is now a well-established scientific fact, however, that emboli more frequently lodge in arteries of the left than of the right side of the brain. The anatomical explanation of this is too well known to repeat here; suffice it to say that the left half of the brain pays dearly for its supremacy of development by

its greater liability of vascular disease. The left middle cerebral artery and its branches are, therefore, the vessels that are preferentially selected as the seat of softened foci, while these are also the favorite seats of atheroma. This, however, does not preclude the possibility of other vessels becoming involved in the pathologic process. Softening is rarely found in the cerebellum or bulb except in syphilitic endarteritis, which frequently implicates these parts. It is clear, therefore, that the ultimate causes of cerebral softening are chiefly those of the arterial diseases that underlie thrombosis and embolism. Generally speaking, thrombosis is usually a sequence of senile atheroma and arterio-sclerosis as well as specific endarteritis, and is more commonly found in advanced life. A similar condition of the arteries may also result from chronic intoxication such as results from alcohol, lead, gout or syphilis, while hereditary influences may predispose to it. Moreover, diseases of the nervous system which are accompanied by permanent disturbances of function of the cardiac and vascular nervous systems, such as cardiac neurasthenia and certain forms of traumatic neurosis, may incite the development of atheroma. Continued emotional excitement is said to act in the same way. Embolism, on the other hand, is usually due to an accident which can be traced to the heart, and follows such conditions as valvular disease, mitral stenosis, endocarditis, atheroma, aneurism, and all forms of cardiac weakness. These, again, may be the result of rheumatism or the infections of typhoid, pneumonia, diphtheria, la grippe and similar diseases. An embolus may also be a disintegrated part of thrombus. As a rule, however, emboli occur most often in young and middle-aged persons, while thrombi (excluding the syphilitic forms) affect individuals beyond middle life.

Cortical softenings are also more commonly associated with embolism, while those found in the central areas of the brain are largely due to thrombosis.

The symptomatology of vessel occlusion or obliteration depends upon the nature of the cause as well as the extent and seat of the lesion. It may, therefore, be sudden or gradual in onset, and the resulting symptoms be transient or permanent, local or general in character. As a rule, when the onset is sudden the symptoms are closely allied to those of cerebral hemorrhage, and if it be due to embolism there are no premonitory symptoms, although there may be convulsive twitchings, rapidly followed with or without loss of consciousness and hemiplegia.

These are also accompanied with mental confusion or irritability, vertigo, somnolence, occasionally delirium or aphasia, and even paralysis. When gradual in onset the symptoms are progressive in character, and if due to thrombosis, which is the common rule, are attended with premonitory signs, such as fullness of the head, vomiting, vertigo, numbness, muscular weakness or temporary paralysis, speech disturbances which later amount to true aphasia, and finally paresis or paralysis which may assume the monoplegic, hemiplegic, or general type and accompanied with true coma.

If the softened foci be not limited in its pathologic sphere of influence, but diffused in character, then the resulting symptoms would be both transient and permanent, the former rapidly giving place to the latter, in which case their localizing character would indicate the special seat of the lesion. If, however, the foci of softening be circumscribed to local cortical areas the complexion of resulting symptoms would necessarily be changed in character and form corresponding with the special area involved. As a rule, in both embolism and

thrombosis, the coma and other general symptoms rapidly disappear, revealing the paralysis and aphasia together with other focalized features but which also have their special localizing value in determining not only the seat of the lesion but also whether it be single or multiple in character. In syphilitic cases there are usually persistent headache and cranial nerve palsies which also aid in the diagnosis. The hemiplegic, which is so common an accompaniment of cerebral softening is usually confined to the right side, and in this respect it presents a broad contrast with that accompanying cerebral hemorrhage which is usually on the left side of the body. Moreover, women are more commonly affected with embolism than men, and the mind in such cases is said to be less affected than in thrombosis. A point emphasized by Oppenheim is worthy of remembering, viz.: "That at times the symptoms of cerebral softening do not correspond to the seat of the lesion, in which case they appear to ridicule all our laws of localization." In addition, it should be remembered that numerous small foci of softening may be present and scattered throughout the brain in addition to the larger one which may be recognized, but which in the former case may not be revealed only by microscopic examination.

Acute softening may rapidly produce death, even within twenty-four hours, but as a rule the patient survives the onset and if death occurs it does not take place usually for several weeks after the disease is established. Often after the acute stage is safely passed, however, the patient passes into a chronic condition which closely resembles that which follows cerebral hemorrhage. In such cases the attending symptoms are of a fluctuating character, giving rise at times to the belief of a speedy recovery by their apparent improvement, but again presenting themselves with renewed fury and in spite of all treatment progress and become persistent for months, until finally the patient succumbs to some intercurrent affection which proves fatal.

The diagnosis of cerebral softening, therefore, at times proves one of the most difficult problems in medical practice and occasionally baffles medical skill. It is based, however, upon all the data referred to and more especially those relating to its etiology and symptomatology. Practically speaking, the question of differential diagnosis concerns chiefly the facts relating to arterial occlusion and whether this be due to embolism, thrombosis or hemorrhage, and more especially the two latter conditions. On general principles after the age of ten and on up to forty a paralytic attack suggests embolism or syphilis.

A recent history of acute rheumatism, or infectious fever associated with heart disease also speaks strongly for embolism. Church states that practically a diagnosis of embolism cannot be made in the absence of cardiac symptoms. While embolism occurs more often in women than men, thrombosis is found more commonly affecting the male sex. Embolism is rare in children and as the onset is sudden it is not attended with the premonitory signs. It is, however, with cerebral hemorrhage and thrombosis that the greatest difficulties in diagnosis are encountered, as these have many features in common.

For instance, syphilis and alcohol may cause both, and both have apoplectic onsets and paralysis sequels. But as those points have already been alluded to in the test, it may prove more satisfactorily if the differential features of diagnosis between these conditions are presented in the form of a table compiled from the various authorities.

With certain modifications the arrangement adopted by Church in his re-

cent text-book is the one selected, with such additions as would appear helpful in rendering them even more useful in their practical clinical application. From this standpoint the leading features in their differential diagnosis may be classified under four principal heads, viz.:

1. Predisposing conditions.
2. Inciting conditions.
3. Onset conditions, and
4. General course of the disease.

Under predisposing conditions we consider the differential features of age, heredity and pathological features. Under the inciting conditions arterial tension and the effects of excitement, shock and sleep are referred to. Under onset conditions we include the character of the premonitory symptoms as well as the paralysis, coma, temperature, pulse, respiration, facial expression, eyes, pupils, and rigidity and speech effects. Under the general course of the disease we consider the special tendency of the paralysis and aphasia as well as the significance of athetosis and convulsions together with emotional disturbances.

When all these differential points are duly considered and given their relative value, the diagnosis of cerebral softening is reduced largely to a question of logical deduction.

The following table, however, may serve a valuable guide in obscure cases and is offered for what it is worth:

	Hemorrhage.	Thrombosis.	Embolism.
1 Predisposing conditions. 1 Age	Most frequent between the ages of 40 and 65, but may occur in infancy or at any age.	Most frequent in the aged and as a result of syphilis in young adults.	Most common between puberty and middle age.
2 Heredity	Often a family tendency to arterial disease.	Rare.	Rare.
3 Pathological changes	Periarteritis and miliary aneurism the usual antecedents.	Endarteritis, atheroma, arteritis, endocarditis and cachesia and blood dyscrasias.	Rheumatism, endocarditis or cardiac disease, infectious fevers, pregnancy, blood dyscrasias.
2 Inciting conditions.	High arterial tension, excitement, effort or shock.	Low arterial tension, rarely excitement or effort sleep favors it.	High tension, excitement, effort, shock.
3 Onset conditions. 1 Symptoms	No premonitory symptoms usually.	Premonitory symptoms common.	Not usual, unless it be those indicative of chronic arterial disease.
2 Stroke	Sudden stroke, common.	Complete stroke, rare.	Sudden stroke, common.
3 Coma	Marked and prolonged.	Slight or wanting.	Not usual, may, however, but not prolonged.
4 Temperature	Rectal temperature reduced, surface temperature elevated on the paralyzed side.	Usually unchanged.	Unchanged.
5 Pulse	Slow, full, bounding.	Weak and compressible—soft and rapid.	Unchanged.
6 Sex	Males chiefly.	Either sex.	Women chiefly.
7 Respiration	Difficult, stertorous, Cheyne-Stokes, common.	Less profound and sometimes undisturbed.	Difficult breathing.
8 Facial expressions	Congested face.	Pale face.	Pale face.

	Hemorrhage.	Thrombosis.	Embolism.
9 Paralysis	Usually hemiplegic, developed at once and profound. Usually left-sided.	Usually monoplegic type and inclined to extend. If it occurs may be on either side.	Hemiplegic less complete. Usually right-sided.
10 Rigidity	Frequent, early.	Frequent, early.	Less frequent.
11 Pupils	Generally fixed and often unequal.	Affections of pupil common.	Less frequent.
12 Eyes and Head	Conjugate deviation of eyes and rotation of head.	Conjugate deviations may be present.	Less frequent.
Speech effects—Aphasia	Not common, but may be present.	Not common.	Aphasia exists in the majority of cases.
4 General course of disease. 1 Paralysis	Rapid improvement. Foot usually gains more rapidly than hand.	Slow motor improvement. Extension of paralysis often observed. Foot often gains less than hand.	Rapidly improved and recovery not uncommon.
2 Anesthesia	Anesthesia, usually fleeting.	Parasthesia persists.	Not common.
3 Aphasia	Aphasia, if present, does not usually persist.	Persistent aphasia and other cortical symptoms common.	Usually present.
4 Athetosis	Postplegic athetosis tremor and chorea common.	Persistent aphasia and other cortical symptoms common.	Not common.
5 Convulsions	Rare.	Common.	Rare.
6 Emotions	Spasmodic weeping and laughter common.	Uncommon.	Uncommon.

The prognosis of cerebral softening is always attended with a great deal of anxiety and interest on the part of those chiefly concerned.

Like all other brain diseases, its gravity depends upon not only the seat but also the extent of the lesion. In the acute stage as a rule it is more favorable than hemorrhage. If due to embolism it is also good but is likely to recur. The degree of the coma governs the prognosis in that the more deep and lasting the less the chance of recovery. The same pertains to the temperature—the higher its degree and the more it persists the greater the danger to life. The same applies to the respiratory centers. The degree of paralysis as well as its duration are valuable prognostic indications also. After the third week if paralysis is present it is apt to be permanent, as the collateral circulation is established prior to this. The age of the patient as well as the cause bear the same prognostic relation here as in other brain diseases. Generally speaking, after the chronic stage is reached, which occurs in about two or three weeks after the accident, the prognosis to life is more favorable although a permanent recovery cannot be hoped for. So far as treatment is concerned, to be effectual it should antedate the occurrence of the softening, hence it is largely prophylactic. When softening does occur, however, the treatment may be divided into the acute and chronic stage, as it is very similar in all respects to that of cerebral hemorrhage, and having already gone beyond the limits of the time allotted me, I am sure you will allow the omission if I refrain from its further allusion.

In conclusion, I desire to acknowledge my indebtedness in the preparation of this paper to such text-books as Gowers, Mills, Church and Peterson, Oppenheim, Dercum and Dana, whose views have been freely used and expressed in the text.

Altman Building.

CLINICAL REPORT.

EXTRAUTERINE GESTATION—REPORT OF THREE CASES.

By C. E. Ruth, M. D., of Keokuk, Iowa.

In my early practice extrauterine fetation was looked upon as a rarity, a sort of curiosity, which the general practitioner might expect to meet possibly once in a lifetime, but could not expect to diagnose with any assurance during the patient's life, and certainly never before rupture. Thanks to the pioneer efforts of Lawson Tait and many of his later able aids, we can now expect a small percentage of cases to be diagnosed before rupture, a large percentage immediately upon rupture; and in nearly all cases a diagnosis should be made sufficiently early to save life.

My fear that many general practitioners do not realize the frequency of the condition, the possibility of diagnosis, and the need of prompt surgical treatment has induced this contribution.

A history of sterility, with regular menstruation in which one or more periods are missed, together with any of the symptoms of pregnancy, especially morning nausea, mammary symptoms, subjective and objective, and with moderate pain on one or other side of the uterus should awaken sufficient suspicion to warrant pelvic examination which will sometimes disclose the nature of the condition before rupture occurs. If to the above symptoms should be added violent pain coming on suddenly without apparent cause, located low in the abdomen, accompanied by faintness, complete syncope, great pallor, rapid feeble pulse, low temperature, cold, clammy perspiration, the diagnosis should be almost positive without pelvic examination. If, however, upon pelvic examination fluid is found in the cul-de-sac of Douglas, with a mass to one or the other side of the uterus, there is internal hemorrhage almost certainly due to rupture of a tubal pregnancy.

In some cases the history is not so clear because lacking in one or more features. Pain and symptoms of internal hemorrhage are less severe, though often repeated, and finally followed by inflammatory sequelæ which greatly mask the etiological factors of the case, but should not alter the obligations of the physician to his patient, viz.: to open the abdomen, stop the hemorrhage and remove the cause of the menace to the patient's life. The duty of the physician to secure the bleeding vessel is as great if the hemorrhage comes from the ovarian or uterine artery as if it came from the brachial.

I herewith report three recent cases occurring in the last few weeks of 1902. One of these cases had not been diagnosed for six weeks, owing probably largely to the patient's refusal to submit to examination and also pain, preventing anything like thoroughness of examination when finally attempted. In this case the history was complete and typical. Another case was complicated by an ovarian cystoma large as an orange, which tended to cause confusion. Case three had menstruated normally two weeks before rupture and gave no hint, whatever, in any way of pregnancy, but the picture at the end was so typical, complete and awful as to make an impression on my mind never to be forgotten. I wish it might be as indelibly stamped on the mind of every practitioner. Its outcome proves that these cases are never hopeless unless actually dead.

Case 1.—Mrs. O. B. H., Keokuk, Iowa; aged thirty years; married seven years. No pregnancies. Menstruated last in July, 1902, followed by shooting pains in the breasts with some nausea. The last week in August, 1902, was taken with violent pains in lower abdomen accompanied by great faintness. Saw the patient with Dr. F. M. Fuller, October 8, 1902, at 10 P. M. Three days previously she had been taken with severe pain, which had been constant, and faintness accompanied by persistent pallor. Physical signs were a soft, irregular mass felt through the entire pelvis, uterus pressed against pubes. Diagnosis—extrauterine pregnancy with tubal rupture and hemorrhage. Operated upon at St. Joseph's Hospital at 10:30 A. M., the following day. Ruptured right tube was removed together with a three-months' fetus, placenta, cord, and large amount of clotted blood. Fetus was free in the cul-de-sac of Douglas, posterior to uterus. Recovery was without incident.

Case 2.—Mrs. J. G., West Point, Iowa; aged thirty-eight years. Mother of three children, the youngest being twelve years old. One abortion fourteen years ago; recovered after curettement. October 19, 1902, consulted Dr. DeVilblis for pain in lower abdomen on left side. Pain became very severe by the 26th, when curettement was done. Missed one menstruation, followed by slight show November 13th, accompanied by severe pain. Pain increased during defecation. Uterus was found fixed and displaced forward by an irregular mass placed behind it. Temperature was normal throughout illness. Diagnosis—extrauterine gestation with rupture of fallopian tube. Complication of an old perineal laceration and hemorrhoids. November 19, 1902, operated upon at my clinic at St. Joseph's Hospital, Keokuk, Iowa. Attached to the right ovary was a cyst as large as a small orange. Left ovary and tube indicated that they were the source of the great amount of hemorrhage found in lower abdomen and pelvis and which was caused by early rupture of a tubal pregnancy. Double salpingo-oophorectomy was done together with a repair of perineum and removal of hemorrhoids by clamp and cautery. Recovery was complete without incident.

Case 3.—Mrs. J. S., Keokuk, Iowa; aged thirty-two years. General health good. Mother of five children. About a year previous at last labor gave birth to twins. After rather heavy exercise was taken suddenly with violent pain in lower abdomen and immediately went into collapse. The patient had menstruated two weeks previously. When seen by me at 7 P. M., December 26th, 1902, two hours after onset of the pain, I found her speechless, pulseless, cold, and bathed in a clammy perspiration accompanied by death-like pallor. Gave hypodermic of strychnine 1-20 gr. and morphine 1-8 gr., raised foot of bed, bandaged legs and thighs, gave a quart of Des. normal salt solution per rectum. Relaxation of sphincters being almost complete, pressure was required to prevent immediate loss of the injection. Applied heat. Temperature after working with her for one hour was 95.5° F. Two hours later temperature was 97.5° F. Pulse could be taken at the wrist and was 140. Ill defined mass outlined behind the uterus. Diagnosis was based almost wholly on symptoms of abdominal hemorrhage which was probably from a ruptured tubal pregnancy. The patient was immediately removed to St. Joseph's Hospital and operated upon at midnight without removing her clothes or taking her off of the feather-bed on which I had found her lying. She was rolled up in the feather-bed, placed on a stretcher and removed to the hospital, as no risk could be taken of a fall of temperature from exposures to cold. Was assisted by Drs. T. J. Maxwell and R. H. Fegers. Abdomen was found filled with blood from a ruptured tubal gestation of the left side. Small ovarian cyst was found on the right side and removed together with the ruptured left tube. After removing the blood and washing the abdominal cavity with Des. normal salt solution the abdomen was closed over as much of the salt solution as it would hold. Head was kept low for two days. Though still very anemic she was able to be up and go home in four weeks.

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JULIUS SCHNITZLER, M. D.,
Docent of Surgery, University of Vienna, Austria; Surgeon-in-Chief, Franz Joseph Hospital. Vienna.

HEINZ WOHLGEMUTH, M. D.,
Berlin, Germany.

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EDITORIAL COMMENT.

AUTOPSY STATISTICS IN CHILDHOOD WITH REFERENCE TO TUBERCULOSIS.

In the current number of *Archives of Pediatrics*, Hand publishes the autopsy statistics of the Philadelphia Children's Hospital for ten years. The total number of autopsies was 332, total number showing tuberculosis 115, or 34.6 per cent. It is important to note that the oldest lesion was found to be in the bronchial lymph nodes in 75 cases (65.2 per cent.), and that the bronchial nodes were affected in 94 cases (81.7 per cent.). Some years ago Northrup reported 126 consecutive autopsies from the New York Foundling Hospital. In all of these, irrespective of the cause of death, the bronchial nodes showed evidences of tuberculosis. These figures are of importance in determining the most frequent site of invasion.

It is interesting, however, to note that in 10 cases (8.7 per cent.) the primary focus was in the mesenteric nodes, while the mesenteric nodes were involved in 53 cases (46.1 per cent.). These figures are significant as having some bearing on the question of the transmissibility of bovine tuberculosis. Judging from the fact that the intestines showed ulceration in only 28 cases (24.4 per cent.), it would appear certain that in some cases the bacilli must have passed through the intestinal mucosa without apparent lesion. In no other way could the more frequent involvement of the mesenteric nodes be explained.

A study of the age incidence gives the following figures:

Under 2 years, 60 (52.1 per cent.).
2–5 " 25 (21.7 per cent.).
5–12 " 30 (26.0 per cent.).

Thus a little over half the cases occurred during infancy. The lowered resistance of this period of life may possibly offer a partial explanation for this. But it is probable that the fact that at this time milk is the chief article of diet will explain this incidence more nearly. The fact that in nearly 9 per cent. of the cases the primary focus was intestinal is another argument in favor of the possibility of transmission of tuberculosis through milk infection.

CITY HOSPITAL.

The proposed changing of the charter of St. Louis offers to the local medical profession a golden opportunity to reorganize medical affairs pertaining to municipal government. The present organization places all responsibility in one man, the Commissioner of Health, who has an advisory board of health and a superintendent for each of the several hospitals. Each of these officers is appointed by the Mayor of St. Louis.

Within the past few years specialism has been developed in all branches of business and professions. In business, department stores, trusts and other large companies, with their departments, have made most wonderful progress,—the greatest in history. These results have been accomplished by men skilled in some particular work laboring in unison with others skilled in different branches, directed by the advice of a number of intelligent, well-trained officers. Our railroad, trust, banking and commercial companies, large factories, etc., demonstrate this principle beyond the realm of argument.

In the law and medical professions similar subdivision of labor and studies has given equally brilliant results. So specialism and the combination of brains and energy are the logical sequence of modern advance and must give best results; consequently an opposite policy must give results of an inferior nature. The poorer results do not necessarily indicate inferior talent, but are due to whatever talent may be present working at a disadvantage.

Municipal hospitals throughout our land have never been all that might be expected nor all the people are entitled to. Yet some of our very best men are and have been in various ways associated with these institutions. This condition is largely due to the fact that a superintendent is responsible for the entire operation of these institutions. This fact is made more prominent by the success of a few municipal hospitals, such as the Boston and Cincinnati city hospitals and some endowed institutions. Here a board of trustees, associated with a number of the best local medical men, give a portion of their time and work to the organization and operation of these hospitals. The positions are filled by men of liberal and patriotic spirits, seeking to do their part toward the improvement of the body politic and the betterment of the condition of the poor element of society.

While the new charter for St. Louis is being prepared, the profession and laymen can have no better opportunity to show their desire for and co-operation in the improvement of the city hospital.

Looking to this end let us propose the removal of the management of the city hospital from the duties of the Health Commissioner and place it in the hands of a board of trustees composed of seven representative business men of the city, who shall be appointed for a term of seven years by the Mayor of St. Louis. The appointments are to be so arranged that the term of service of one trustee expires each year. The duties of this board shall be to appoint all officers and

employes of the hospital; formulate the general policy of the institution; guard all appropriations for its maintenance, etc., and be responsible to the Mayor for all matters pertaining to this branch of municipal work.

The actual operation of the hospital should be divided into two branches, namely, executive and professional. The duties of the executive division would be the care of the buildings, purchasing of all supplies, direction of employes, etc., and be performed by a business superintendent. The professional work could be divided into departments of medicine, surgery, gynecology, obstetrics, children's diseases, etc., each department being in charge of one or more of the recognized specialists in the several branches, these chiefs of departments to formulate the policy of each department and be responsible to the board of trustees for all matters of a professional character pertaining to their respective departments.

There should be a sufficient number of house medical officers and nurses to properly perform the necessary duties.

To assist the chiefs of departments and attend to urgent calls, a resident physician and a resident surgeon should be appointed; also a dispensary service ought to be established for the treatment of minor ailments and the selection of cases for the hospital. This to be divided into departments corresponding to those in the hospital.

Members of the board of trustees, chiefs of departments and house medical officers should serve without pay. The superintendent, nurses and employes should receive stipulated salaries. Minor details regarding the work are unimportant here.

Advantages to be gained are, the hospital receives the benefit of good business men constituting the board of trustees, who should fill all positions on the merits of the individual applicant. The business of the hospital will be looked after by a business man. The professional men would be relieved from the business cares pertaining to the hospital and each branch would be cared for by a man skilled in that department. In other words, this plan of organization would secure a combination of brains and energy of specially trained men as directors Consequently one must anticipate the best results, as are obtained in the commercial world by similar plans of organization. The expense of operating a hospital on this basis is no greater than on any other basis, save a better service is obtained which of necessity must cost a little more.

The following table gives relative cost of several hospitals:

	Number of Patients.	Days Treated.	Cost per Day.	Cost per Year.
Boston City*	8,503	149,313	$2.11	$445,291
Cincinnati	6,000	152,205	96	143,000
City Hospital, St. Louis	8,763	186,880	4919	93,480
St. Louis City and Female Hospital	11,540	261,340	59	154,172

* The Boston City Hospital is a partially endowed institution and liberally supplied with funds. The $445,291 includes expenses of all subdepartments. On the hospital proper $317,436.13 was spent. Income from pay patients, $62,523.63. Net cost to city, $252,430.80.

The Boston and Cincinnati hospitals are in charge of a board of trustees. Here the highest type of service is rendered at a somewhat higher price than is

paid in St. Louis. Regarding the relative difference in the character of work, those familiar with the several institutions may judge. It is sufficient to say a change in the management of the St. Louis City Hospital is urgently desired by all. For this change no more desirable time will ever present itself.

ETIOLOGY OF ACNE VULGARIS.

It is not only possible but highly probable that the cause of comedo formation and acne vulgaris is to be laid at the door of a specific bacillus and not to the mysterious deleterious effects of pies, cakes, candies, highly spiced foods, etc.

Unna, Engman and Hodare described in 1893 and 1894 a small bacillus which they had observed in the center of the comedo and in pus from acne lesions which they thought was the specific cause of acne. Later in 1894 Sabouraud described the same bacillus in his researches upon seborrhea, various forms of which he attributed to its influence, and named it the micro-bacillus of seborrhea. He also found the organism in acne lesions, but asserted it merely opened the door, as it were, to the invasion of the staphylococcus, the cause of the pus formation. No one succeeded in obtaining pus cultures of these bacilli until Gilchrist began his researches in 1899, when he found pure cultures that proved fatal to guinea-pigs in about a week. This was, however, preliminary work to later researches, the report of which has just appeared in the *Journal of Cutaneous Diseases* for March. Here his findings are almost convincing. He obtained sixty two pure cultures of the acne bacillus from acne nodules; found the organism in the smears and in the tissues, and demonstrated their specific action in every way except by inoculation experiments. He does not, however, deny that there may be predisposing etiologic factors, as age, diet, etc., though, he sagely adds, diet and hygiene will not cure the disease. An observation every investigator can but confirm. He suggests that the anemia, constipation, dyspepsia, so often seen in acne, may be due to the absorption of toxins produced by the specific bacilli. Many of us have treated acne patients who presented these general symptoms, by local antiseptics and surgical means, at the same time giving tonics, diet, etc. Their subsequent improvement is attributed to the general treatment, but is, in the light of these recent researches, more probably due to the local treatment with the consequent relief from toxemia.

Acne bacilli are very pathogenic to animals, a point much in favor of Gilchrist's idea.

Never yet has the writer seen a patient with acne vulgaris in the least benefited by diet or internal medicine alone; on the contrary, he has seen the disease spread rapidly under the most rigid dietary and tonic treatment. Local treatment, until we have a specific serum, is now, from Gilchrist's investigations, demonstrated to be of the first importance.

Even those who have held to the idea of the internal origin of acne treat their patients by applying local germicidal applications, yet in spite of this empirical knowledge they will attribute the recurrence of an outbreak to a possible dietary indiscretion. This certainly does not seem rational when the patient has at the same time neglected the local applications.

The work of Gilchrist confirms clinical experience and leads us to hope for valuable additional knowledge of the disease in the near future.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

The Widal Reaction in a Case of Liver Abscess.—MEGELE (*Muenchener Medicinische Wochenschrift*, April 7, 1903).—The great variety of symptoms which may be present in typhoid fever frequently renders difficult an absolute diagnosis. The cardinal symptoms are not often found in that order which enables one to exclude the possibility of other diseases. The Ehrlich Diazo reaction has not merited the confidence which was placed in it in the beginning. Puncture of the spleen is not without danger, and, therefore, cannot be generally employed. Obtaining the pure cultures from the stool requires much time, and is not practical for clinical purposes. Investigations concerning the direct isolation of the typhoid bacilli from the blood are as yet not conclusive.

The Widal reaction, though not infallible, is by far the most reliable diagnostic aid at this time. From time to time cases are reported in which the Widal reaction has given positive results, though typhoid was not present. In the beginning many of these results were due to improper technique. Investigations upon normal blood serum have shown that dilutions under 1:40 should not be employed in making the Widal reaction. The normal serum may give positive results in 25 per cent. of cases with a dilution of 1:10, in 7 per cent. of cases with a dilution of 1:20, etc.

The author reports a case in which, though the Widal ultimately gave positive results, the autopsy revealed the presence of a liver abscess. The illness began with articular rheumatism; the symptoms of this affection were promptly relieved; shortly afterwards the patient manifested symptoms of typhoid, the typical fever curve, heavily coated tongue, etc. A positive Widal reaction led to the diagnosis of typhoid fever. Soon after this, however, the fever curve became very irregular, and the patient presented a septic appearance. A few days before his death he became icteric.

The post-mortem revealed a large abscess of the liver, but no evidence whatever of typhoid fever existing or having existed. Bacteriological examinations of various secretions and organs were made, but the typhoid bacilli were not found.

Spontaneous Disruption of a Urinary Calculus.—GOERL (*Muenchener Medicinische Wochenschrift*, No. 14, 1903) reports a case of stone in the bladder in which he was able, through the use of the cystoscope, to demonstrate its spontaneous disruption. The stone was observed and reckoned at 2 cm. in diameter. The patient weighed at this time two hundred and fifteen pounds. He was placed on a rigid diet with a view to reducing his weight, and was advised to take two liters of lithia water per day. Within five months he weighed but one hundred and sixty-five pounds, and all subjective symptoms of stone had disappeared. The cystoscopic examination now revealed four small segments of the former stone. These passed spontaneously. Though this result was not anticipated, the author believes the change of diet largely responsible for it through the reduction in the urine of stone-forming elements.

Direct Percussion of the Epigastrium a Diagnostic Aid in Ulcer of the Stomach.—MENDEL (*Muenchener Medicinische Wochenschrift*, No. 13, 1903).—In view

of the fact that our means of diagnosis in ulcer of the stomach have in no sense been perfected, the author believes that every possible means should be employed. He employs and recommends direct percussion over the epigastrium with the percussion hammer. The patient is placed in such a position as will cause the abdominal walls to be tense; light, quick taps over the epigastrium will reveal, in the case of ulcer, a small circumscribed area of pain, depending upon the position of the ulcer. The use of the hammer does not elicit pain even in the most nervous patients. Though painful areas may be found, however, in carcinoma, cholelithiasis, etc., the zones are not so circumscribed, and the symptoms are such as to make a differential diagnosis possible.

Atony of the Stomach and Its Relation to the Succussion Sound and to Gastrectasia.—CONHEIM (*Berliner Klinischer Wochenschrift*, April 6, 1903) reviews the various opinions and theories recently expressed by authorities concerning the gastric succussion sound (Plaetschergeransch) and its significance. He assumes a position between Elsner and Spiller. Elsner considers this phenomenon nothing more than an accompanying symptom of gastroptosis in cases of relaxed abdomen; while Spiller considers it a pathognomonic symptom of atony of the musculatur of the stomach, especially when present a considerable time after the ingestion of food. He also maintains that there is no gastroptosis without atony. The author does not consider the succussion sound a symptom of atony; he concedes, however, that in the absence of relaxed abdomen it is an indication of Spiller's asthenia universalis congenita, the so-called habitus enteroptoticus. It may occur in perfectly normal individuals in whom the predisposition to neurasthenia gastrica exists. The succussion sound is, so to say, a signal of warning. Any one presenting this symptom is always in danger of developing a nervous, functional, chronic stomach trouble. It requires only some exciting cause to call it forth, such as phthisis, masturbation, labor, poor hygienic surroundings, grief, etc., etc.

These nervous, functional gastric disturbances never occur in obese individuals. Atony or nervous dyspepsia is, in contradistinction to ectasia, which depends upon local processes, a constitutional trouble with few exceptions. The succussion sound accompanies every case of atony, but there is not necessarily atony in every case in which the succussion sound occurs.

A Case of Pneumonia Due to Gonococci.—BRESSEL (*Muenchener Medicinische Wochenschrift*, March 31, 1903).—A patient suffering from gonorrhea suddenly developed pneumonia, with all of its typical symptoms. The sputum contained intracellular diplococci in large numbers. Cultures from the blood showed the presence of diplococci which were identical in every way with the gonococcus. The author thinks the case unquestionably one of gonococcus pneumonia.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

The Ether-Chloroform Narcosis.—BRAUN (*Zentralblatt fuer Chirurgie*, April 4, 1903).—It is possible to maintain a good ether narcosis by the drop method and the use of an ordinary chloroform mask, it being necessary in some instances to use a few drops of chloroform now and then, too. It is always necessary in such cases to give a dose of morphine first. In this way, and in this one alone, it is possible to reap the advantages of both drugs as well as to obvi-

ate the ill-effects of the two. However easy it is to keep the ordinary individual under the influence of ether alone drop by drop, it is still true that now and then one is encountered who is so full of resistance that chloroform alone is of avail. It is only when a large amount of ether is used in concentrated form that respiratory symptoms are noticed; hence the value of the method proposed herein. An interrupted narcosis, of any sort whatever, is wrong in principle; hence several of the older instruments must be discarded as worse than useless. When it is seen that a patient cannot be kept under ether by the drop method on a chloroform mask, then one is not to increase the concentration of the ether (ether mask), but to add a little chloroform, drop by drop.

Abscess of the Liver.—GIRARD (*Journal of the Association of Military Surgeons*, March, 1903).—The following interesting report of cases is taken from the clinical histories of 18,000 hospital cases of various kinds. These were treated at the Presidio between 1899 and 1902, and furnish interesting reading. There are in all twelve cases of abscess, of which eight were caused by the amœba, while in four the etiological factor could not be definitely traced. In four of these twelve cases a diagnosis was made, and the four were cured by operation, while the true condition was discovered in the other eight at the autopsy. Of the four operated cases, but one was due to the amœba. All of the amœbic cases were decidedly icteric, while in none of them was pain in the liver region a prominent symptom, as one might have expected. In conclusion, the writer states that his hospital experience with so many cases teaches that abscess does not complicate many amœbic cases; that the non-amœbic cases present much more severity than the others; and that operations for abscess will usually prove successful unless the focii be multiple.

Multiple Myelometa of the Bones.—VIGNARD and GALLAVARDIN (*Revue de Chirurgie*, No. 1, 1903.—To come under this definition these tumors must be primary in the bones as well as multiple. There have been many growths described under this name which do not properly belong in this class; these the authors take pains to classify in detail. A characteristic of this form of tumor is the presence in the urine of a body discovered by Bence Jones in 1845, and known as an albumose. The author had two cases, which are described in detail and illustrated with beautiful histological cuts; but, unfortunately, he neglected to make the test for the substance in the urine. The seat of predilection for these growths is the vertebræ, ribs and sternum, or the bones which have a red marrow, though from the appearance of the tumors it is impossible to tell with certainty which is primary and which secondary. A characteristic feature of the malady is the never-failing absence of secondary growths in the viscera. Only five of these interesting cases have ever been reported, and in but two has it been possible to make a diagnosis before the death of the patient.

Pyogenic Action of the Pneumococcus.—MEYER (*Mitteilungen aus der Grenzgebieten der Medizin und Chirurgie*, Band xi, Heft 1).—Here are reported a number of cases to show that the pneumococcus produces pus in much the same way as do the various micro-organisms which are so much more commonly met with in this connection. It would seem, further, that almost any part of the body may be the seat of the pathologic process in question at the present time. The first case is that of a woman who presented the various well-known manifestations of a suppurative trouble in the neck. At the operation the pus was seen to lie within the capsule of the parotid gland, and on examination it was found to be a pure culture of pneumococcus. A second case of the same kind is reported, as well as two involving the lymphatic nodes of the retroperitoneal space in one instance, and of the axilla in another. Next there are given the details of three cases in which the regions surrounding the teeth were affected, the char-

acteristic organism being found in each instance. Several patients in whom the manifestation was one of periostitis or of arthritis are next detailed, to complete the surprising picture. Four similar cases of peritonitis are added to the list; all were operated upon, and of the number but one died; certainly a good record. The author concludes this most interesting addition to our recent surgical pathology with certain general conclusions, as follows: The course of this or any other infectious disease depends upon the resistance of the patient as well as the virulence of the bacterium, rather than upon the special kind of germ present.

Transplantation of Omentum in the Operative Treatment of Intestinal Defects.—E. J. SENN (*Journal of the American Medical Association*, April 18, 1903).—Reference is made to the fact that the omentum plays the part of a protector of the peritoneum, it having been proven that more rabbits die after injection of septic matter into the cavity when the omentum has been removed, than do if that organ is not disturbed. Reasons for using the omentum for a patch are: Condition of the bowel wall which precludes suture, the danger of producing a narrowing, condition of the patient at the time of operation, or adhesions so extensive as to make an enterectomy impossible. Senn operated on a case of appendicitis associated with necrosis of the cecum which was so widespread as to preclude suture of that viscus, so he patched the wall with omentum, with the result that his patient recovered and suffered no fecal fistula. This success led him to make six somewhat similar experiments on dogs, all of which resulted unfavorably. Still he does not consider this a fair criterion on account of the fact that the omentum of the dog and that of man are by no means similar. Senn formulates several rules, among which are: That the omentum should not be used alone in the manner under discussion unless there be adequate drainage down to the site; further, the peristalsis of the small intestine must be interfered by sewing the viscus to the wall if it is to be patched; the cecum furnishes the most favorable site for such a patch.

Germs in the Air of the Operating Room.—TUFFIER (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 12).—There are two distinct ways of ridding the air of germs, viz.: one physical and the other chemical. The former is by saturating the air with steam, in order that the weight of the organisms may thus be aided in precipitating them to the floor. The other method is by saturating the air with hydrogen peroxide. Tuffier is, it must be said to his credit, a firm adherent to the physical method. He had a long series of experiments made in his operating room, and came to interesting and valuable conclusions. He found that the physical method was decidedly more efficacious than the other; further, the number of occupants of the room had a decided influence, as did the length of time the room had been used or kept closed. Petri dishes were exposed in the room under the greatest variety of circumstances, but the results obtained are too complex to be done justice to in a review. The subject is one that must interest every surgeon, and I am sure that a perusal of the original will compensate the reader for the time spent.

The Chemistry of the Oxygen-Chloroform Narcosis.—ROTH (*Zentralblatt fuer Chirurgie*, No. 12, 1903).—In an abstract of Lauenstein's article from this same journal it was noted that the Hamburg surgeon had ceased to use the apparatus invented by Dr. Roth for the reason that certain rivals of the doctor claimed that a decomposition of the chloroform took place in his device. In the article now at hand it is interesting to note that Roth contradicts all such statements, and advances as proof of his position the results of tests which have been made for him by chemists. It is interesting to await the outcome of the matter, since it bids fair to have an important influence on the oxygen-chloroform question.

The Diagnosis of Intestinal Injury Following Abdominal Contusion.—Le Conte (*Annals of Surgery*, April, 1903).—This is a most interesting and instructive exposition of the subject founded upon the author's own experience. The author goes most fully into the matter, considering the subject from all standpoints—the different kinds of injury, the different conditions under which they may be received, and the various effects which each may have upon the patient. He lays great weight upon the facial expression as a diagnostic point, having never seen one in which the *facies abdominalis* was present without serious intestinal lesion. Pain, shock and tenderness have all deceived the author, however, so they cannot be regarded as reliable in all cases. Great distention, as well as vomiting coming on after shock has disappeared, must always be regarded as serious. One must always wait for a reaction to take place before a diagnosis can be made, but no diagnostic sign is infallible.

A Contribution to the Pathology of Intermittent Hydro-Nephrosis.—Bazy (*Revue de Chirurgie*, No. 1, 1903).—This interesting article, which reports a number of cases, has its chief value in the illustrations which it contains, these being seventy-three in number, and portraying more vividly than any description can do the different anatomical conditions which lead to hydro-nephrosis by interference with the urinary outflow.

The author has relieved the condition by a most delicate plastic operation upon the pelvis of the kidney, doing something which can be compared to the operation of pyloroplasty. This can surely be considered in keeping with the ideas of advanced modern surgery, especially when one considers how kidneys have been sacrificed in consequence of this condition before the surgeon has even considered the idea of a conservative plastic.

In closing the author avers that an intermittent hydro-nephrosis always has for its cause a congenital malformation of the pelvis of the kidney or one of the accessory portion of the ureter.

Resection of the Colon at Two Sittings.—Goeschel (*Beitraege zur Klinische Chirurgie*, Band xxxvii, Heft 1 and 2).—The author gives the method of Mikulicz his unqualified approval, relating at the same time several successful cases, and making some interesting observations in this connection. He does not cut away the tumor at the first operation, as does the originator of the method, and sees in his results no indication for doing so. He prefers to wait two days after the portion to be resected has been sewn outside the abdomen. After removal of the two gangrenous portions the patient is placed in a permanent bath, and thus all skin trouble (escaping fecal matter) obviated. The author uses the crushing forceps to re-establish a new opening between the two stumps which have been placed parallel at the first operation, and then closes the artificial anus as soon as possible. This last act is done without opening the peritoneum at all. A hernia always ensues at the site; still it is certainly better to have this than to risk death from the other methods.

Report of Cases of Bolo Wounds.—Fisher (*Journal of the Association of Military Surgeons*, No. 1, 1903).—It is interesting in this day of small-caliber bullets and humane warfare to learn of the terrible punishment which can be inflicted by the barbaric weapon of the Phillipines. The most interesting of the eight cases described is that of a soldier who was attacked while walking for exercise one evening. One blow of the long knife severed the left arm, which had been thrown up to shield the head, and cleft the face, opening up the cranium at the same time; another hacked off the acromium process and the greater part of the deltoid muscle, while a third made a deep wound in the thigh. In spite of all this the patient, who must have been possessed of extraordinary resistive powers, was making a satisfactory convalescence, when, on the twelfth day, the symptoms of tetanus appeared; to this disease he succumbed.

A Patient in Whom the Knee-Joint Was Resected Eighteen Years Ago.—LUCAS-CHAMPIONNIERE (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 13).—This woman had been in a very bad state when the operation was done; this refers to the general condition as well as to the knee. This, later, had undergone a pathological dislocation backward, there being in addition an ankylosis in this malposition. At present the woman seems in perfect health and walks without a support, though with some stiffness, as might be expected. The author has done one hundred and twenty of these resections without a death, five months after the operation being the date at which the earliest of his cases has succumbed.

Plastic Surgery on the Face.—SCHLOFFER (*Zentralblatt fuer Chirurgie*, March 28, 1903).—The operation herein proposed and one carried out at the clinic of Prof. Woelfler in Prague, is certainly ingenious, to say the least. It consists in a method of restoring the continuity of the face after a large portion of the upper lip and contiguous tissues of one side have been removed. The new idea is to cut the nose from its attachments and to retract the point upward between the eyes while the soft tissues from the opposite side of the face are loosened and drawn across to fill the defect, after which the nose is brought back down to its original bed and sutured in place.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Treatment of Acute Infectious Diseases.—J. WERNITZ (*Therap. Monatsh.*, 1903, No. 2).—Last year W. reported a number of cases of puerperal sepsis favorably influenced by his method of treatment. He now extends this method to all infectious diseases. In the main it consists in the administration of great quantities of water. Thereby he not only prevents the loss of water by means of evaporation due to the pyrexia and the resulting suffering from thirst, but he also stimulates all the excretory functions, and hastens the elimination not only of the toxins, but also of the formed elements of the virus. Moreover, the resulting temporary hydremia brings with it a corresponding dilution of the toxins circulating in the blood; the cells of the body are thus less violently injured by the toxins, and are more readily enabled to produce antitoxins. He has found Hegar's method most useful. A moderately long rectal tube is inserted as high as is possible without too great discomfort, and is attached to a fountain syringe. The water is allowed to flow into the rectum under gentle pressure; when the desire to evacute the rectum becomes imperative, the irrigator is lowered and the rectal contents allowed to flow back into it. The irrigator is then raised again and the procedure repeated. When the contents of the irrigator become too greatly contaminated, they are replaced by fresh water. After an hour's interval the enema is repeated. The rectum, now thoroughly clean, absorbs the water rapidly. Three or four such enemas are given daily. The pulse becomes fuller, the dry mucous membranes moist, the general appearance improves, headache and delirium grow less. With the second or third enema sweating sets in and grows more profuse with each injection. The temperature falls, at first only during the sweating, later permanently. The urine rises to five or six litres daily.

The number of enemas varies according to the nature of the case. In a severe septic fever ten enemas were given in twenty-four hours, and a marked improve-

ment noted. In less grave conditions fewer enemas suffice. According to W.'s experience there is no antipyretic with which we are able to depress the temperature so certainly and so safely as with this method. Complications or ill after-effects were never seen.

A New Method of Massage.—HOFMEISTER (*Centralbl. f. d. ges. Therapie*, 1903, No. 3; *Beitr. z. Klin. Chir.*, Vol. 36, No. 2).—The method, which is capable often of replacing manual massage, consists in immersing rhythmically the extremity to be massaged into a deep vessel filled with mercury. For this purpose a cylindrical vessel, 50 cm. high and 12–15 cm. in diameter, half full of mercury is used. The latter is covered by a layer of dilute alcohol to prevent evaporation. The pressure of the mercury upon the skin becomes greater the more deeply the limb is immersed, and finally causes a complete cessation of the arterial blood supply, so that the hand or foot becomes entirely anemic. Accordingly if the extremity be alternately immersed and withdrawn, a condition of anemia and of ample blood supply alternates, thus constituting a true massage.

By this means it is also possible to cause edemas rapidly to disappear; in one case a diminution of the circumference of the wrist amounting to several centimeters was noted after a single mercurial massage lasting half an hour.

Good results are also obtained in mobilizing stiff phalanges. If the hand is inserted into the mercury with the fingers slightly flexed, the pressure of the liquid tends to flex the fingers still more and so to mobilize them.

The mercury massage is a very equable one, causes no pain and has no unpleasant effects. Even where there were open wounds no mercurial intoxication was produced. If one desires, however, to avoid the possibility of such a complication, the wound may be coveredwith gutta percha tissue or adhesive plaster. The method is useful also to prevent stiffness after phlegmons or panaritia, since it can be used even before the wound has healed.

Its only drawback is its expense: three litres of mercury at $20 per litre are required.

Selected Prescriptions.—(*Centralbl. f. d. ges. Therapie*, 1903, No. 3).

For gout:

℞ Inf. fol. digital.....1.0 ad 200.0
Kal. nitr..... 4.0
Tr. colchic..... 5.0
Syr. simpl..... 30.0
D. S.—One tablespoonful every two hours.

For flatulence:

1. ℞ Fol. menth. piper.,
Rhiz. calami.....aa 30.0
Fruct. juniperi..... 15.0
Fol. senn..... 12.0
M. f. spec. D. S.—Use for an infusion.

2. ℞ Fol. menth. piper.,
Fol. melissæ,
Rad. valerian..... aa 15.0
Fruct. anis,
Fruct. coriandri.....aa 5.0
M. f. spec. D. S.—Use as an infusion.

3. ℞ Magnes. ust..... 12.0
Pulv. rad. rhei,
Pulv. rad. ringit.....aa 3.0
M. f. pulv. D. S.—Take one teaspoonful several times daily.

For catarrh of the respiratory passages:

1. ℞ Liq. ammon. acet. 20.0
Aq. cinnamomi 130.0
Syr. simpl. 30.0
D. S.—One tablespoonful every two hours.

2. ℞ Inf. flor. sambuci ..... 15.0 ad 150.0
Liq. ammon. acet.,
Syr. simpl ..... aa 25.0
D. S.—One tablespoonful every two hours.

For acne vulgaris:

℞ Resorcini resublim. 1.0
Mercur. bichlor. corros. 0.1
Past. zinc. 40.0
D. S.—Spread over affected area every evening.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

The Intracellular Toxins of Some of the Pathogenic Bacteria.—V. C. VAUGHAN (*Journal Amer. Med. Association*, March 28, 1903) gives a preliminary account of the studies made on intracellular bacterial toxins in his laboratory. The paper is of great interest inasmuch as he established that by certain very energetic methods from these bacteria toxic substances may be obtained. The possibility that these substances which artificially can only be produced by the destruction of organic material should be liable to be formed in the infected animal organism, is only an assumption. That they should be the intrinsic causes of the intoxications in some certainly infectious diseases, the real mode of action of which is as yet unknown to us, is possible, but not proven. If 40 to 50 mg. of a toxic body prepared from anthrax bacilli are necessary to kill a guinea-pig of 300 grams, it can certainly not be the toxic body which kills another infected animal in twelve to sixteen hours, in which the weight of the bacilli developed in its body cannot be computed to amount to more than 10 to 20 mg. The investigations of Vaughan are very interesting and also important, but they will not, as yet, throw any light on obscure infectious processes, nor be able to influence our views on the biologic relations of infecting bacterium and infected organism. Pathognomonic lesions (except the pustule) we know none in anthrax.

The name toxin is generally accepted for substances in their essential nature absolutely different from the toxins of Vaughan.

The Albumoses, Their Clinical Significance, etc.—THOS. J. YARROW (*American Medicine*, March 21, 1903) expatiates in this article on the importance of the demonstration of albumoses in the urine, in cases where a suppurative process is suspected. He details the method of this demonstration (separation from other proteids after the well-known Hofmeister and Salkowski and Devoto methods, salicyl-sulfonic acid, etc.) and then relates a series of cases in which the presence of albumoses led to the discovery of pus, intra or post-vitam. It is certain that the method indicates suppuration to a much finer degree than the counting of the leucocytes, although it must be doubted that in cases of encapsulated abscesses it would be superior to it. Whether our knowledge of albumoses justifies us to

consider everything demonstrable by the method followed is doubtful. On the other side, the author forgot a very important point, namely, that albumoses (real albumoses, no Bence Jones) appear very frequently in the urine without suppuration being present. The painstaking investigations on the presence of albumoses in the urine of tuberculous and other patients during the period of fever, made by Penzolnt and many others, would at least suggest a great carefulness in the use of a positive albumose-reaction for the diagnosis of pus.

About the White Blood-Corpuscles in Malaria.—(*Zeitschr. fuer Hyg. u. Infect. Krankh.*, Vol. 42, Heft 3.)—Although it has long been known that in malaria the number and relative proportions of the white cells of the blood show peculiar changes which usually are designated as absence of leucocytosis and as an absolute increase of the large mononuclear cells, the subject has never been systematically studied. The paper of *Rudolf Poech* is an exceedingly welcome contribution to it, as it shows that the negative findings (as to parasites) in supposed malarial blood can be conclusively confirmed by a careful investigation of the white cells. His conclusions are so important that they will be given in full. The researches were made on material that in regard to variety and copiousness cannot be surpassed, and they were made in intimate touch with the basal teachings of *Ehrlich*.

In the beginning of the attack in tertian and quartan fever sometimes a moderate polynuclear leucocytosis of transitory character occurs. Otherwise in no stage and in no form of malaria leucocytosis is seen; at the height of the fever the number of leucocytes is decreased frequently in tertian and quartan fever, sometimes in tropical. Frequently leucopenia obtains during the whole course of the disease.

During the fever the mononuclear cells are decreased in tertian and quartan forms; during the decline of the fever in all forms of malaria a relative and absolute increase of the large mononuclear forms is observed, which can during the course of the infection increase and can continue during reconvalescence. Thus it can point to a cured infection.

During the attack the eosinophilous cells are mostly decreased, otherwise they are found in normal numbers.

The Fight Against Typhoid Fever.—(*Veroeffentl. a. d. Gebiete d. Militaersanitaetswesens*, Berlin, 1903, Heft 21.)—Following out the experiences so far made in the fight against cholera and malaria, and the results obtained by a strict obedience to the conclusions drawn from these experiences, R. Koch in this paper insists on the truth that the same principles obtain for the extermination of typhoid, dysentery, and also for diphtheria and tuberculosis. In one word, his advice is the absolute isolation of the patient and the destruction of every infectious material emanating from him. Of course against this advice of Koch again will be urged the old objection that the bacterium is only one of the causes of the disease; that the bacterium is powerless if the constitutional resistance of the individual is sufficient. Unfortunately, it is always forgotten that this resistance is very low in the majority, and that in our life the stimuli for the lowering of a normal resistance are so many that the bacterium will most frequently find a receptive soil. The age when our hygienic progress will have brought the total of mankind to a degree of resistance beyond the power of the bacterium, we cannot foresee. Would it, under these conditions, not be better to take to heart the practical suggestions of the great German, which certainly strike the fatal blow to that factor that alone can make an enfeebled organism a typhoid, dysentery or tuberculosis patient?

Influenza in Its Surgical Aspect.—A. Perez (*Deutsche Zeitschr. f. Chirurgie*, Vol. 56, Nos. 1–3).—In an extensive series of experiments the author investi-

gated the pathologic lesions caused by the bacillus of Pfeiffer in the animal organism. The work is mentioned here on account of the very important finding that by this bacterium artificially an "idiopathic" peritonitis (local or general) can be produced. Cases of primary influenza-peritonitis in man have been reported, but their characterization as such has met with much doubt and criticism. With these experimental evidences before us, the statements of several trustworthy writers appear fully justified.

Trypanosomiasis on the Congo.—PATRICK MANSON (*Journal of Tropical Medicine*, London, Vol. vi, No. 6).—The study of tropical diseases has added through this paper a very interesting new etiologic factor to the already long list. For the first time some cases of trypanosoma-infection are here reported occurring in human beings. The part that these flagellates play in several animal diseases (tsetse, surra, mal de caderas and dourine) has been widely studied during the last five years, but so far the human race seemed to be immune from them. The clinical symptoms are as yet not very well defined, comprising fever, anemia, and often delirium; but what seems to be certain is that in trypanosomiasis, too, an insect carries the infection, and it is probable that a tick (Argas moubata) is the culprit. A tick disease (with immunity after recovery) was long known in the Portuguese South Africa, and in the cases of Manson, too, the bite of an insect, probably a tick, forms the starting point of the disease. Further study of this very interesting disease is anxiously expected for practical and theoretical reasons.

The Antitoxin Treatment of Tetanus.—V. SCHUCKMANN (*Deutsche Medicin. Wochenschr.*, 1903, No. 10), instigated by a fatal case of tetanus that was treated with antitoxin according to the directions given by Behring, and that fully satisfied all the restrictions stated by the latter for the successful use of antitoxin, compares the reports of forty cases of tetanus treated with it. From his tables it appears that the number of recoveries increased with the time which elapsed between the first symptoms and the administration of the serum. This, of course, can only mean that the greater number of cases recovered are those that would have recovered anyhow. Of sixteen cases injected on the first day, none recovered; of ten cases injected upon the fifth day, eight recovered. In spite of Behring's continued assertions that antitoxin, if employed according to his directions, will reduce the mortality to fifteen per cent., this has nowhere been verified; and if the nature of the lesions is considered, and the character of the action between toxin and antitoxin, this cannot be otherwise. Antitoxin is the specific prophylactic, and in developed tetanus only prevents further intoxication.

Further Contribution to the Etiology and Specific Cure of Hay-Fever.—DUNBAR, Hamburg (*Deutsche Medicin. Wochenschr.*, 1903, No. 9), publishes this fascinating account of his studies on hay fever, after some preliminary communications have preceded. He has found that the etiologic factor of hay fever is contained in pollen cells of graminaceous plants, and he has found that all of the species and genera of grasses act alike in this respect on susceptible persons. The specific substance is present in the starch-rodlets contained in the pollen cells, and is most likely of albuminoid nature. It is insoluble in alcohol and ether, but soluble in water and salt solution. Extracts of such pollen cells cause in persons susceptible to hay fever typical and characteristic pathologic processes, and even if small doses are applied the symptoms reach, now and then, a dangerous degree of severity. For persons not subject to hay-fever the extract is absolutely without effect. With such extracts Dunbar immunized animals (rabbits), and in the course of time obtained a serum of marked effect. Mixed with the extract and instilled into the eye (this method was used with

good result for all experiments), no effect is seen. The experiments were repeated in a number of cases, always with the same result. Toxin in one eye and toxin and antitoxin in the other eye caused in the former conjunctivitis, while the other eye remained unaffected. An acute attack of conjunctivitis caused by pollen extract could be cured within twenty minutes by the instillation of a drop of the serum into the eye in intervals of five minutes. The pollen cells of other plants were found to have no effect. The paper reminds one very much of the so-called ricin-immunity, and is one of the most important contributions that medicine has received lately.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Impregnation.—E. TOFF (*Centralbl. fuer Gyn.*, No. 14, 1903).—In this article the author exposes his somewhat unique views on the influence of sexual intercourse and pregnancy upon woman. It is well known that the vaginal mucosa possesses a considerable resorptive power for medicaments. It is permissible to assume that such resorption will be more effective towards the spermatic fluid, in view of the active motility of the spermatozoa. The substances absorbed from the sperma are by no means indifferent to the female organism. The author is inclined to believe that all the differences commonly observed in the married (non-pregnant) woman as compared with the virgin, can be traced back to this influence. Anemic and delicate girls often become, after marriage, plethoric and robust, symptoms of nervousness disappear, shyness and timidity change into self-reliance and independence. The writer finds the proof for his theory in the harmful effect of Malthusian cohabitation in which the salutary resorption of spermatic fluid is prevented.

If pregnancy occurs the woman is not "a mere receptacle for the impregnated ovum," but stands now under the influence of the fetus. There is a continual resorption of substances produced by the growing fetus, which owes half of its vitality to the father. We may assume that in this way also during pregnancy a pronounced influence is exerted by the paternal organism upon the maternal system.

From these considerations Toff concludes that both by means of cohabitation and pregnancy the female system is thoroughly impregnated with products of the male organism. As regards the duration of this impregnation and the permanency of such effects no positive assertion can be made with respect to sexual intercourse; it is, however, obvious for pregnancy. A woman, married a second time, may give birth to a child resembling her first husband, if she had a child with him. A similar observation regarding animals is well known especially among stock raisers and horse breeders.

It seems permissible furthermore to deduce that the female body is in need of these male body fluids, and that their absence in old maids may be responsible for some of the ailings characteristic of them.

All these conjectures are, of course, only applicable for the resorption of the spermatic fluid of a vigorous and healthy man. Is he a weak, debilitated individual, or sick, suffering from syphilis or tuberculosis, then the resorbed substances turn into deleterious toxines that soon show their harmful effect upon the woman's organism.

The Age of First Menstruation at Pole and Equator.—GEORGE J. ENGELMANN (*Amer. Gynec.*, March, 1903).—The author, to whom we owe many fundamental

contributions to the question of menstruation, fecundity and sterility of the American women, proves in this elaborate publication the error of previous teachings of precocious puberty at the equator and retarded development at the pole. At both extremities of the globe races are found with early and others with late development. An average of all the various statistical observations among the different races from pole to equator as collected by the author, tend to prove that puberty comes at 14.6 in the Arctic regions, nearer 15 in the tropics, later still, at 15.5, in the temperate zone of Europe. In the temperate zone of the New World development takes place at an earlier age, namely at 14.

At present only these facts can be presented, and only further ethnological and physiological studies can establish the causes for these apparently contradictory conditions.

The Influence of Acute Infectious Diseases Upon the Uterus.—CHR. STRAVOSKIADIS (*Monatsschr. f. Geb. und Gyn.*, February, 1903).—This is an article of unusual interest and must be regarded as a prominent contribution to our knowledge of spontaneous interruption of pregnancy or the occurrence of metrorrhagia during the course of an acute infectious disease. The writer examined bacteriologically and histologically the uteri of twenty-four women who had died from an acute infectious disease, five of whom were puerperæ. In sixteen of these cases the investigations yielded a positive result. The author concludes as follows: During the course of acute infectious diseases there occur quite often inflammations of the endometrium, varying in intensity, but usually causing hemorrhage. These inflammations are produced by specific bacteria, as a rule, identical with the active agent of the infectious disease. In cases of complication due to a secondary infection with another bacterium, the latter may be found as the provocator of the endometritis. The infection is carried to the uterus through the circulatory system, and it seems that during pregnancy and the puerperium the conditions are specially favorable for such a propagation. It is by no means rare that premature interruption of pregnancy during the course of an acute infectious disease is due to an acute endometritis produced by an hematogenic infection of the uterine lining.

On the Causes of Tubal Implantation of the Ovum.—E. OPITZ (*Zeitschr. fuer Geb. und Gyn.*, vol. xlviii, part 1).—Manifold are the causes supposed to lead to the pathological implantation of the impregnated ovum in the tube. We find among them abnormal length of the tubes, some mechanical obstruction of the lumen, either by compression from without or blocking by a polypus. In a few rare instances the ovum seems to have wandered into a diverticulum. Clinical observations have always pointed to the fact that the abnormal nidation of the ovum in the tube must in some way be connected with inflammatory processes that had occurred either in the tube or in its immediate neighborhood. It has been supposed that peritonitic adhesions may compress the tube, that inflammatory thickening of the tubal wall may interfere with the normal peristaltic contractions of the tube, that a previous salpingitis has led to a loss of the cilia of the tubal epithelial lining. But most of these hypotheses have been found deficient in the majority of cases of tubal pregnancy. Opitz has examined the tubes in twenty-three cases of early tubal pregnancy. In contradistinction to the practice of almost all the preceding investigators he directed his attention, for certain reasons, entirely to the portions of the pregnant tubes lying between the place of implantation of the ovum and the uterus. He divided these portions into serial sections. In all cases changes were detected due to inflammatory processes. The most noteworthy of these changes were found in the mucous membrane, which was abnormal in every case. The stroma of the folds of the tubal lining was firm from the development of fibrous connective tissue. Most of these folds were lower and thicker than normal, their ends often being club-

shaped. The most important change, however, that has been found, was a broad, firm union between neighboring folds. The number and character of these adhesions varied considerably in the same tube, as well as in different tubes. The study of these tubes in serial sections demonstrated that, as a consequence of these adhesions, branches of the tubal lumen are formed that often end blindly. Opitz has apparently found through his most painstaking investigations the most common cause for the implantation of the impregnated ovum in the tube. One conclusion must logically be drawn from the author's findings—*i. e.*, that there should be no attempt made to save the pregnant tube; it will remain as a permanent menace for the development of another ectopic pregnancy.

Sectio Cesarea in Mortua—Living Child.—Weisswange (*Centralbl. f. Gyn.*, No. 10, 1903).—The writer reports the following case, which affords interest in many respects: Patient was thirty years old, in the last month of her first pregnancy, felt perfectly well. At bed-time, when she stooped over to remove her stockings, she felt a sudden sharp pain in the region of the heart immediately followed by an attack of dyspnea. The physician who arrived within seventy-five minutes could only ascertain that the woman had just died. Cesarean section was performed after permission for the operation had been given by the husband, and a child deeply asphyxiated extracted from the uterus about nineteen minutes after death of the mother had occurred. The child was revived. Post-mortem examination showed a spontaneous rupture of the heart, the laceration being two cm. long. Microscopical examination was entirely negative.

There are three hundred and thirty-one cases of Cesarean section *in mortua* recorded in the literature of the last century; only in six or seven instances the outcome was favorable as far as the child was concerned.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Rheumatic Chorea and Its Antirheumatic Therapy.—Kobrak (*Archiv fuer Kinderheilk.*, Vol. 36, H. 1 and 2) has collected the cases of chorea occurring in Neumann's polyclinic in Berlin. From 1895 to 1901 inclusive, 110 cases of chorea were seen, the total number of cases being 33,897 (0.3 per cent.). In the first half of 1902, 12 additional cases were observed, making a total of 122. Of these 61 (50 per cent.) gave a history of rheumatism. The actual number of cases of acute polyarthritis seen was 99. The preponderance of the chorea cases is explained partly by the fact that the severer cases of rheumatism did not come to the polyclinic, partly by the fact that in many cases the chorea is really only the first manifestation of rheumatism. Indeed, 18 cases were seen where the two conditions appeared in the same child at different times.

Kobrak believes that in addition to the rheumatic virus, a nervous element is at work in the production of chorea in rheumatically predisposed children. In this way he explains the preponderance of chorea in the female. In this connection it is noteworthy that the pre-pubertic period is a time of election for the onset of chorea. In order to test the question of the connection still further, a series of chorea cases (occurring in distinctly rheumatic children) was treated by the administration of an anti-rheumatic—aspirin. Of 11 cases treated, aspirin had a markedly beneficial effect in 9, much better than arsenic.

In 7 cases, without rheumatic history, aspirin acted very well in two; in the other 5 arsenic gave better results.

No good results were obtained from the use of aspirin in choreic endocarditis, nor did it appear that it exercised any marked prophylactic power in this respect.

Body Temperature in Different Kinds of Feeding of Healthy Infants.—In 1902 Weill showed before the Society of Medical Sciences of Lyon, temperature and weight curves of several infants fed by different methods. He came to the conclusion that certain definite relations existed between temperature, weight increase and the kind of food employed. More recently Tiberius has repeated and confirmed these observations. His results are summarized in the *Rev. Mens. des Mal. de l'Enf.*, April, 1903.

The temperature of healthy breast-fed infants is constantly at or slightly above 99.6°, without oscillation. It was found that when the temperature begins to show variations, the weight remains stationary. When weight begins to increase again, the temperature curve remains horizontal. The temperature of babies fed on cow's milk, whole or diluted, shows irregular oscillations from 97.6° to 100.6° F. Some relation between gain in weight and changes in temperature was also found.

The temperature of infants fed on ass's milk, which resembles human milk more nearly than cow's milk, approaches more nearly the temperature type of breast-fed infants.

The correctness of the observation was confirmed by a case of an infant at first artificially fed, and later put to the breast. The change in the temperature curve was at once noticeable. Tiberius believes that the differences in temperature afford an index as to the condition of the infant metabolism, in that the use of cow's milks offers, at times, difficulties in the way of assimilation. This is explained by the fact that it differs in its chemistry and in its ferments, from human milk.

The Medical Treatment of Tubercular Peritonitis.—GUTHRIE (*Archives of Pediatrics*, April, 1903) does not believe that laparotomy is of very great value in treating this condition. Of 41 cases treated at Paddington Green Children's Hospital, 14 underwent laparotomy, 7 of whom died, a mortality of 50 per cent. Of the 27 treated medically, only 4 died, a mortality of less than 16 per cent.

The author does not think that there is any specific treatment for this condition. Most of the medically treated cases were given inunctions of biniodide of mercury. However, as a rule, treatment must be entirely symptomatic.

Pain.—Best treated by rest in bed, local applications of belladonna, heated cotton, wool or spongiopiline.

Flatulency and Indigestion.—Mild, careful dieting and bismuth.

Diarrhea, unless profuse and continuous, needs no active treatment.

In some cases it may even be salutary in reducing ascites.

Bismuth and opium, aromatic chalk and opium powder are of much value.

Constipation.—Enemata if the lower bowel is loaded. Occasional doses of vegetable cathartics are indicated, unless evidence of ulceration be present.

General Diet.—This need not be fluid, unless there is obviously extensive ulceration. Pyrexia present is usually not high enough to interfere with digestion. Meat, fish, poultry, eggs, cream, milk and butter are usually well borne. Starchy and other foods tending to produce flatulency must be avoided.

Hygiene.—Rest in bed, *in the open air*, is essential.

Ascites. It often subsides spontaneously after rest in bed and mercurial inunctions. In the chronic cases where it shows no tendency to disappear it should be withdrawn. It is best to make a small incision and then use a blunt perforated trocar, so as to avoid wounding adherent intestines. The author does not believe that the operation of laparotomy, *per se*, is of special value in these cases.

Temperature Curve in Croupous Pneumonia in Children.—JENNINGS (*Archives of Pediatrics*, April, 1903) shows charts of five successive cases of pneumonia. They illustrate a sharp remission of temperature which the author has frequently noted in the course of the disease in children. This drop in cases with tardy development of physical signs is apt to be a confusing element in diagnosis.

In none of the cases reported was an antipyretic used. Drop usually appeared at end of second or on third day, and usually amounted to at least 3° F. Remission lasted only a few hours in each case.

Sterilized, Pasteurized or Clean Milk?—BROWN (*Archives of Pediatrics*, April, 1903) reviews the theories and facts concerning the handling and treatment of milk, and reaches the following conclusions:

(1) Sterilization at 212° F. is of great value, especially in cities, and to the poor who lack intelligence; because it may be performed by anyone without apparatus.

(2) Pasteurization at 140°–158° F. in closed vessels for fifteen minutes is much to be preferred, as the milk is little changed in taste or chemical properties from raw milk. This temperature is sufficient to kill pathogenic organisms and lactic acid producing bacteria. But all heating of milk to a degree sufficient to kill bacteria impairs—in direct ratio to height of temperature and time continued—the nutritive value of milk.

(3) When obtainable, fresh, pure, clean milk used raw is much to be preferred. Such milk is now supplied in many of the large cities, and could be provided in all cities and towns of even moderate size, if the profession would put forward the proper efforts.

(4) All milk dealers should be licensed by the town or city in which they sell milk. Such license should give health officer power to inspect premises at any time. The license should also carry with it a statement from the dealer that all cows producing milk which he sells have been tested for and found free from tuberculosis.

Tingling of the Hands in Scarlet Fever.—AUBERTIN (*Archives de Med. des Enf.*, April, 1903) calls attention to an early symptom of scarlet fever first described by Mayer. This consists of a peculiar tingling and pricking of the hands, most distinctly felt on the palmar aspect. In a few cases Mayer found transitory numbness (and paresis) of the entire upper extremity. There is no objective disturbance, no redness or swelling. There is no pain and the symptom is not to be confounded with the well-known scarlatinal arthritic pains. The symptoms appear at the time of or just before the appearance of the eruption, and lasts for a day or two. It has not been found in other exanthemata, or in the various scarlatinoid eruptions. Mayer found the symptom present in seventy-two out of a hundred cases of scarlet, and he believed that it might have diagnostic value in doubtful cases.

ORTHOPEDICS.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

Contribution on the Etiology of Coxa Vara.—M. FROELICH (*Revue d'Orthopedie*, 1902, Mars.)—There are, anatomically, two forms of coxa vara, according to the writer: the trochanteric form, with the bend near the trochanter, and the cervical form, with the bend near the femoral head. The first class is mostly produced by traumatism, tuberculosis, osteomyelitis or rachitis; the second is true coxa vara.

The symptom of true coxa vara, the restriction of abduction, is due mostly to the shortening of the muscles and tightening of the under side of the capsular structures. By exercises forcibly carried out, or forcible manipulation with massage, most of these cases can be greatly benefited, and only in exceptional cases does he recommend the chiseling off of the trochanter or the oblique subtrochanteric osteotomy.

The Structure of the Negro's Foot.—MAX HERZ (*Zeitschrift fuer Orthopaedische Chirurgie*, 1903, xi Band, 1 Heft).—It is a popular notion that the negro has nominally a flat foot. The author examined carefully many natives in Africa, negroes, Swahili, Kaffirs, etc., and shows by tracings and drawings that they have not flat feet, but, on the contrary, have well adducted feet, with a good arch, which at times may be marked by an abundance of muscular structures, which are developed very highly in these races who never bind the extremities and use the toes much as we do our fingers. The second toe is at times the longest, but the great toe is usually longer. He further observed that the tuber calcanei is no longer in the negroes than races further north.

Congenital Dislocation of the Hip; The Causes of Relapse.—E. H. BRADFORD (*Trans. Orth. Association*, 1902).—Transpositions should be classed as surgical failures as far as reduction goes, even if the patient is benefited by the treatment. Even in successful reductions relapses may occur, or reduction may be incomplete because the head does not pass in or through the capsular neck into the acetabulum, and a relapse naturally takes place. Failure to divide or sufficiently stretch the short tissues which produce the dislocation or check the free movement of the limb may cause the relapse. Several factors may, however, tend to a relapse after the successful reduction of the head into the acetabulum. There is not infrequently a twist in the neck of the femur, which throws the head of the bone forward when the foot is directly straight in front, so that x-ray pictures may give the impression of no head being present unless the foot and limb are strongly rotated in. After reduction of such a dislocated neck there has to be a correction of the inward rotation, or locomotion will be impossible without throwing the head out of the acetabulum. This is done by doing an osteotomy of the shaft of the femur above the condyles, and then rotation outward on the long axis of the bone. A Gigli saw is used instead of the osteotome, while the head is held in place either by a steel pin driven antero-posteriorly through the neck and incorporated in the cast, or a nail driven into the trochanter, as recommended by Schede. Another hitherto undescribed cause of relapse is the insertion of the psoas tendon on the twisted shaft, which acts as an everter of the foot, and tends to redislocation when the head of the twisted femur is in the acetabulum. This may be corrected by chiseling off the lesser trochanter, or by waiting until the adaption of the soft parts after reduction, which takes a long time.

The Role of Atmospheric Pressure in the Hip-Joint.—SEABURY W. ALLEN (*Boston Med. and Surg. Journal*, April 9, 1903).—The importance of air pressure in holding the head of the femur in the acetabulum is generally recognized, but the author has carried out some experiments which cast some doubt on the old teaching, and lead him to conclude that the bones are held together, primarily, by the cotyloid ligament, and, secondarily, by the capsular ligaments and the surrounding structures, and that "air pressure" need not be considered. Seven cadavers, with perfect fitting hip bones, were suspended vertically. Points for measurement were made by driving nails into the anterior superior spine, the top of the crest of the ilium and in the trochanter. The joint was then opened by trephining into the cavity from the pelvis, and air was admitted without the joint changing. The muscles were next severed, but there was no relaxation in

the joint. The posterior half of the capsular ligament was divided with separation averaging .23 c.m. When the anterior half of the capsular ligament was cut the joint separated .94 c. m. further, and after cutting the colytoid ligament the joint surfaces fell apart to the extent that the ligamentum teres was the only structure holding them together.

Neuroses as Seen in Orthopedic Practice.—B. E. McKenzie (*Canadian Journ. of Med. and Surg.*, December, 1902).—Such cases as manifest a disturbance of functional control, but are not marked by recognizable changes in the central or peripheral nervous tissue, often, because of disability, consult the orthopedist, particularly such cases where traumatism has been the initiative and doubt regarding the recovery has given rise to the nervous symptoms. Several causes may operate to produce a continuance of the disease, such as injury to some part, generally slight in itself but magnified in importance by some attendant circumstances or disease, recovery from which is not recognized, or consequent disability, which is greatly magnified, attended by the fear that the natural use of the part may be harmful. The home environment, with its magnification of each complaint of pain and overdone sympathy and indulgence, is probably the most baleful influence in the production of the neurotic state. In the paper the author details at length thirteen obscure cases, with the full detail of treatment. The diagnosis is the most essential point in treatment. Then separation from home surroundings, not giving the "rest cure," but having every detail an education, a training of faculties long unused, an exercise of the mind and body, which will restore the control that has been lost, and the use of such suggestion as will restore self-reliance. Such actual disease or disability should first be remedied as far as possible by surgical or other means. One feature of the author's treatment is made quite prominent, that is, the regular use of the gymnasium where class work is preferrable, inasmuch as discipline is here best carried out, and by association with other persons allows the director the opportunity to bring into full play the pedagogic practices based on emulation.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Experimental Observations Upon the Pathogenic Action of an Organism Resembling the Klebs-Loeffler Bacillus, Isolated From Cases of General Paralysis of the Insane.—W. Ford Robertson and Shennan (*Rev. of Neurol. and Psychiatry*, No. 4, 1903).—This is a preliminary note on the study of pure cultures of an organism resembling the Klebs Loeffler bacillus found in various cases of general paralysis. Intraperitoneal and subcutaneous injections in guinea-pigs did not produce any noteworthy morbid symptoms. Intrapleural injection in a white rat resulted in death of the animal in five days. The following preliminary conclusions are advanced: When pure cultures of this bacillus are introduced by way of the alimentary tract in the form of broth cultures, it is capable of producing in the rat a series of morbid phenomena which especially affect the nervous system and which, when once established, may go on progressively till death results, even though feeding with the cultures is stopped, and that the associated changes in the central nervous system have a distinct resemblance to those which occur in dementia paralytica.

Lesions of the Posterior Lymphatic System of the Cord the Origin of the Pathological Process of Tabes.—MARIE and GUILLAIN (*Rev. Neurolog.*, No. 2, 1903).—The question of the essential lesion of tabes is as yet unsettled. The two latest theories of Negeotte and Thomas are at present being widely discussed. The former holds that the initial lesion depends upon an inflammatory process which attacks a number of the sensory and motor roots as they leave the cord at the subarachnoid space, depending upon a syphilitic process of the meninges. The latter believes that the initial lesion is a neuritis, comparable in certain respects to the histological lesions found in the toxic neuritiden, but which differs from them by the fact that they exercise a selection for the posterior root. This neuritis is rather a dystrophy than an inflammatory process. The paper here presented by Marie and Guillain, the former especially well known by his previous contributions to the pathology of tabes, presents an entirely new conception of the tabetic process. The authors of this paper base their theory upon two facts which can be demonstrated macroscopically in a tabetic cord: first, by the atrophy of the posterior nerve roots; second, by the posterior meningitis. To explain the limitations of the meningitis to the posterior portion of the cord they bring forward the anatomical peculiarities of the lymphatic system which supplies the cord. This system, limited to the posterior meninges is almost an independent one which does not communicate, or at least very sparingly, with that of the anterior and antero-lateral system. In other words, the pathology of the posterior meningitis is a special one. They believe that there is sufficient grounds for asserting that there exists in the spinal cord a lymphatic system particularly active and relatively independent, constituted by the posterior roots and the pia mater in juxtaposition with them. Their conclusion is that the initial lesion of tabes is nothing else than a syphilitic lesion of the posterior lymphatic system of the cord.

The Cytological Examination of the Cerebro-Spinal Fluid in Tabes.—DELISLE and CAMUS (*Rev. Neurolog.*, No. 4, 1903).—The examination of the fluid drawn by spinal puncture in tabes for purposes of diagnosis has been much in vogue in the French clinics. There is as yet some difference of opinion as to its real value. In twelve cases of tabes in the service of Professor Dejerine only four showed a positive lymphocytosis. The authors of the above paper found that it was positive in some cases of tabes of long standing but not in recent ones. The age of the tabetic process bore no relation to the presence or absence of lymphocytosis. Their conclusion is that the examination of the cerebro-spinal fluid is of no importance either in prognosis or diagnosis in tabes.

The Cyto Diagnosis of Tabes.—WIDAL, SICARD and RAVANT (*Rev. Neurolog.*, No. 6, 1903).—In this paper the authors, who are to be regarded as the originators of the spinal puncture method of studying tabes, answer the negative conclusions of the foregoing paper. They criticize the conclusion reached there upon the fact of the inexactness of the technic used by Delisle and Camus. They quote the result reached by Babinski and Nageotte, who report twenty-five positive out of twenty-six cases, and of many others with equally good results. To answer the objections advanced by their critics they reported thirty-seven cases of tabes in which the test was positive. The technic is briefly as follows: Its purpose is to convey to a glass slide for microscopical examination in the smallest possible space all histological elements contained in a given amount of cerebro-spinal fluid. The fluid should be collected with the greatest care in a thin, sterilized tube and centrifuged. The sediment should be placed on a warm slide, fixed in alcohol and ether and stained with eosin-hæmatin, thionin or the tri-acid stain of Ehrlich. The following is a brief resume of their conclusions: Lymphocytosis of the cerebro-spinal fluid is not only a specific diagnostic sign of tabes and general paralysis, but it is not found in tubercular meningitis. It is an evi

dence of a simple irritative process. It is found in syphilitic meningitis and in meningo-myelitis of a specific nature. In patients with a syphilitic hemiplegia it is always found. In hemiplegics the presence of a lymphocytosis in the cerebro-spinal fluid should always suggest the possibility of its specific nature. In the hemiplegic state of the ordinary cerebral hemorrhage or softening, lymphocytosis is always lacking. It is only after the stroke itself that a temporary lymphocytosis is found. In cases of old syphilitics presenting no specific or nervous symptoms the cerebro-spinal fluid is normal. In a patient with a syphilis of long duration, presenting a lymphocytosis of the cerebro-spinal fluid, the suspicion of a possible tabes or a general paresis should always be aroused.

The Cortical Cell Changes in Epilepsy—Their Significance and Clinical Interpretation.—L. Pierce Clark and Thomas P. Prout (*Boston Med. and Surg. Jour.*, No. 17, 1903).—In considering the pathological change in epilepsy a sharp distinction should be drawn between the lesions of the cortex, which are a direct result of the epileptic discharge, and the abnormal states of the cortex which precede and predispose the individual to epilepsy by producing an unstable nervous organism. The central idea which prompted the beginning of this study four years ago upon status epilepticus, was that the latter is the most pronounced state of the disease. If, therefore, there are distinct cortical cell changes in epilepsy, such must be present in the most pronounced form following the status. The study comprises an examination of the cortex in eighteen cases of epilepsy from the Craig colony, some of which died during the status. To avoid post-mortem changes as much as possible the brains were examined as soon as possible after death. In the eighteen cases studied, the longest period of time elapsing after death before the material was placed in the fixing agent was seven hours. The fixing and hardening agent was absolute alcohol, and the tissues were stained by the Nissl method. For purposes of comparative study some sections of normal brain were prepared in like manner. The condition of the cells of the cortex, especially those of the second layer and other cells of that type, was most striking and differed only in degree in the several cases of epilepsy. The cells were swollen, some being ballooned to twice their normal size. The chromatic substance was almost entirely gone, nothing but a bare framework remaining of the body of the cell itself. The nucleus was often swollen out of proportion to the swollen cell body. In the majority of instances the outline of the nucleus was difficult to define, all traces of the nuclear membrane having disappeared. The nucleus itself presented a finely granular appearance. They believe that these facts point to a destruction and ultimate disappearance of the cell as a unit in the cerebral cortex. The nucleus is the highest biologic portion of the cell. Recent biologic facts prove that it presides over the vital process in the cell and that without it the cell dies. Since the nuclear changes ultimately result in cell death, we are in a better position to understand a condition so frequently found after status—the infiltration of the cortex with leucocytes. The gliosis, of course, occurs as a remote sequence of the cortical cell destruction, and since cells of the second layer suffer, especially in the acute epileptic process, the great frequency of extreme gliosis in the outer layer of the cortex is readily understood. Probably the most practical lesson to be drawn from this study is that epilepsy is a diffuse lesion of the entire cortex. In conclusion, the authors believe that they have narrowed the gap that has hitherto existed in the knowledge as to the terminal gliosis and the toxic and autotoxic agents in the pathogenesis of the disease, and that this is largely comprised in the cell changes and particularly those of the nucleus.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

Renal Decapsulation for Chronic Bright's Disease.—EDEBOHLS (*Med. Record*, March 28, 1903).—The author again calls attention to his operation for the cure of chronic Bright's disease, and reports thirty-two additional cases operated upon in 1902. He also calls attention to the fact that many cases are unilateral. He gives more minute directions as to the preparation of the patient, speaks of some of the faults in the technique of other operators. He gives a brief record of his deaths, and quotes other cases in illustration. In the summary of his fifty-one cases, embracing forty-seven operations upon both kidneys and four operations upon one kidney only, seven patients died within seventeen days, seven died at periods after operation varying between two months and eight years, two patients do not show improvement satisfactory in every respect, twenty-two patients are in various stages of satisfactory improvement. One patient, after a cure extending over four years, again has chronic Bright's disease; one of her kidneys only was operated upon. Nine patients were cured of chronic Bright's disease, and remained cured after an average duration of over four years. Three patients have been lost sight of.

Concerning the Influence of Resection of the Deferent Canal Upon the Tonus of the Vesical Sphincter.—WASSILIESS (*Ann. des Mal. des Org. Genito-Urin.*, March 1, 1903).—The good effect of sexual operations for prostatic hypertrophy has been attributed to atrophy of the prostate, but the researches of certain authors have clearly disproved this. In fact, Floderns has shown that the diminution of the volume of the gland that is observed clinically is not due to a change of its texture, but to a diminished afflux of the blood and lymph.

It has been demonstrated clinically and experimentally that there is a certain reflex action upon the urinary apparatus from sexual operations. After quoting seventeen very interesting personal experiments, in which the author shows that there is a reflex diminution in the tone of the vesical sphincter following sexual operations, he concludes that the amelioration observed in prostatic hypertrophy after such operations is due to the diminution of the tone of the vesical sphincter by reflex action. This is, indeed, confirmed clinically, because it is with acute prostatics that the sexual operations give the best success, and, further, this hypothesis explains why the relief so often rapidly follows the operation. The suppression of the sphincteric spasm influences, happily, the circulation, and thus assures a more stable and prolonged benefit.

Some Remarks on Hypernephroma, or Adrenal Tumor of the Kidney.—OHLMACHER (*The Cleveland Med. Journal*, March 1, 1903).—Hypernephroma is a term now applied to tumors arising from the adrenals and located either in the adrenals, in more or less close proximity to these organs, or in the substance of other viscera, *i. e.*, the kidney. It is a fact, very familiar to embryologists and anatomists, that the adrenal is prone to displacement during its development, either the entire gland being abnormally located or portions ("rests") of it being misplaced. To the proliferation or multiplication of the cells composing such adrenal rests the origin of hypernephroma is ascribed.'

Histologically, they reproduce more or less perfectly one or the other of the normal layers of cells into which the adrenal cortex is divisible, or they partake in structure of the adrenal medulla.

They may either be benign or malignant. The author reports four cases which have come under his observation. Since the true nature of these adrenal

growths of the kidney has been elucidated, it is far from permissible to call hypernephroma a rare form of renal tumor.

The Prostate and Its Relation to Rectal Disease.—MARTIN (*Internat. Med. Magazine*, March, 1903).—Because of their intimate relation and the anatomic arrangement of their venous systems, rectal irritations are sometimes dependent upon prostatic disease and *vice versa*. Indeed, that condition known as senile hypertrophy may have as its cause, in addition to the urethral irritations to which it is usually ascribed, rectal inflammations. The author reports three cases in which a mild acute prostatitis immediately yielded to treatment directed to the primary rectal condition, and one case in which the primary condition lay in a congested and chronically inflamed prostate, which only tended to accentuate and continue a catarrhal condition already existing in the rectum and colon.

Trikresol in Para Urethral Abscess.—HEIDINGSFELD (*Boston Med. and Surg. Jour.*, April 16, 1903).—Having noted the marked success following the injection of trikresol in acne, furuncules and localized abscesses (a single injection often completely absorbing them in twenty-four to forty-eight hours), the author was led to try this method in para-urethral abscesses with suprisingly good results. The method consists simply in injecting into the center of the abscess, with a hypodermic syringe, from a fraction of a minim to a minim or more of trikresol, according to the size of the abscess. Slight reaction only takes place, followed by a speedy disappearance of the abscess.

The Bacteriology of Cystitis.—LONGFELLOW (*J. A. Med. Asso.*, April 4, 1903).—This excellent compilation of the subject is replete with valuable information. The author, among other things, says: In cystitic urine, as a rule, both cocci and bacilli are present; either one may exist in excess of the other, both may exist equally, or only one form of bacteria may be present. Among the cocci present are the staphylococcus pyogenes aureus, albus or citreus, the micrococcus ureæ, sarcina urinæ, the uro bacillus liquefaciens septicus, the streptococcus pyogenes, the zoogleæ masses, and the gonococcus.

The bacilli are usually the coli communis, the tubercle and, in cystitis during the middle or latter end of a typhoid attack, the Eberth bacillus. Thiogenic bacteria may be present, whose peculiar function is to convert sulphuretted hydrogen into more potent compounds of sulphur, and play no small role in cystitis.

Movable Right Kidney as a Cause of Pancreatic Diabetes.—BROWN (*Phil. Med. Jour.*, April 4, 1903).—Two cases are reported of movable right kidney, which evidently, by pulling upon the pancreas, caused glycosuria. Successful nephropexy was followed by disappearance of the sugar.

The Administration of Calcium Salts in Nephrolithiasis Due to Uric Acid Calculi.—CROFTAN (*J. A. Med. Asso.*, March 28, 1903).—The author's favorable experience in four cases and the statistics of Van Noorden lead him to believe that the treatment of uratic nephrolithiasis by the continuous exhibition of calcium salts is efficacious and deserving of extended trial. The administration of calcium carbonate in fifteen to twenty grain doses or more, three times daily, gives the best results.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Granuloma Trichophyticum.—P. COLOMBINI (*Derm. Zeitschrift*, 1902, p. 641).—This form of ring-worm occurs usually upon the scalp, but is often seen elsewhere, especially upon the forearms. The lesions occur in the form of large papules, tubercles or tumors, the parasite penetrating the deeper layers of the skin and the subcutaneous tissue, where it forms granulomatous tissue. The lesions soften and the detritus contains epethelial and pus cells and round bodies, the spores of the fungus.

A case is here reported by Colombini, which had besides the usual lesions of ring-worm of the scalp large papules scattered over the scalp of a pale to a dark red color.

A Case of Blastomycosis.—J. H. SEGUEIRA, M. D., Lond. (*British Jour. Dermatology*. April, 1903).—To Dr. Gilchrist, of Baltimore, Dr. Segueira acknowledges his indebtedness for the recognition of this case, which is probably the first recorded case of blastomycosis in England. The patient was a strong man of thirty-seven years, born in England and had never resided out of that country. He was a handler of cattle. There was no history of syphilis. In the spring of 1901 a small white spot appeared below the inner canthus of the left eye, which spread inward and increased to the size of a six penny piece in three months. At times there was a whitish offensive discharge from it and occasionally slight hemorrhage. There was considerable itching. About five months later a similar spot appeared below the right eye, which spread in the same manner finally impairing vision by its size. Several spots also appeared about lesions on cheeks, one upon the scalp.

Upon entrance to hospital the lesions occupied the above locations, they were not tender to touch and upon pressure a thin, whitish, offensive discharge could be squeezed out from under the crusts. When the crusts were removed small ulcers were disclosed from which the pus oozed upon pressure.

The diagnosis was based upon the following points: (1) The face and scalp alone were affected. (2) The lesions were multiple. (3) These spread and fresh lesions appeared apparently by inoculations. (4) The edges of the tumor were well defined and there was but little infiltration. (5) They soon became pustular and thin whitish pus could be squeezed out. (6) Microscopically there were numerous minute epidermal abscesses (7) In these abscesses and in the pus squeezed from them budding yeast-like organisms were found. (8) From the deeper layers of the epidermis branching down growths of prickle cells were found extending into the corium. (9) The growths were markedly influenced but were not entirely dispersed by iodide of potassium in large doses.

Liquid Germicide.—HERBERT SKINNER (*British Journal Dermatology*, April, 1900) recommends the following as a powerful liquid germicide which produces no deleterious effects upon the skin:

Formalin,	
Glycerin	aa ½ fl. oz.
Sol. potass. oleat.	3 fl. ozs.
Ol. lavand.	20 min.

A Fatal Case of Schoenlein's Disease.—W. T. WATSON, M. D.—The case is reported on account of the fatal termination and autopsy. Female, aged ten, had always been well with exception of measles and chicken-pox, which she had

when quite young. Two or three months prior to onset of disease had complained of pain in abdomen which would pass away in few minutes. She also had frequent headaches during the two weeks preceding the attack. The attack dated from January 28th, when she had a chill followed by high fever. On 29th fever continued with frequent vomiting, no pain. These symptoms continued until the 31st, when she complained of aching of arms and legs and a rash like measles appeared on chest and back, while points of pressure, like the hips and buttocks, became intensely red. The next day the joints began to swell and the eruption appeared on abdomen, while the skin upon the posterior aspect of thighs and buttocks was the site of a continuous purpuric eruption. About nine days later the case took on the aspect of an acute nephritis and patient died March 12th.

The anatomical diagnosis from the post-mortem was acute hemorrhagic glomerulo-nephritis, anasarca, broncho-pneumonia.

Contribution to the Study of Psoriasis.—M. Oro and L. Mosca (*Giornate internazionale delle scienze mediche. Annales de Derm. et de Syphilis*, March, 1903).—In the microscopical study of psoriasis the authors find that it begins as a small leucocytic cluster or abscess, agreeing with the findings of Munro and of Kopytanski.

At the autopsy of a patient who had had psoriasis with exfoliation, they found a myelitis which was almost exclusively limited to the gray substance and principally to the large cells of the anterior cornua. The peripheral nerves presented the lesions of an interstitial neuritis, the vessels also had changes in their coats with integrity of the internal tunic.

The injections of the urine of psoriatics, they report the results of six injections, demonstrated that it was more toxic than that of healthy individuals. The inoculation of scales of psoriasis upon healthy skin of non-psoriatics produces no result upon either irritated or non-irritated surfaces. Bacteriological examination of the blood gave no results.

From these studies the writers conclude that the parasitic origin of psoriasis is yet to be demonstrated and that in their opinion the autotoxic and neuropathic theories are most applicable to the pathology of the disease.

LARYNGOLOGY AND OTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Bromide of Ethyl in Adenotomy and Tonsillotomy.—Solenberger (*Jour. A. M. A.*, April 18, 1903).—The author states that an ideal anesthetic for the removal of adenoids and tonsils has not yet been found, but believes that the bromide of ethyl more nearly meets the demands than any other anesthetic which we now possess, especially for children. The mortality reports in recent years show it to be as safe as ether. Riech found there were 16 deaths in 60,000 cases, some of which were due to faulty administration and others to impurities of the drug. The author, with an experience of 100 cases, met with only two in which at all alarming symptoms arose. They were due in the one to faulty administration, and in the other to impurities of the drug.

Strict rules as to its administration must be observed, viz.: There must be a reasonable certainty of the healthiness of the lungs, liver and kidneys (the fact that a child is delicate does not contraindicate its use). The drug should be pure (the pure specimen is found only in sealed brown glass tubes). The mistake of giving the bromide of ethylene must be avoided. It should be given

with the child in the intubation position, "en masse" as free from air as possible, in quantities of five gm. for children up to five years, and 10 gm. the maximum dose up to the age of twelve years. The time of administration is from twenty to forty seconds and not longer than one minute. The operation can always begin one minute after the beginning of the administration. The anesthetic lasts about two minutes, after which the patient becomes immediately conscious with no uncomfortable sensations. Under no circumstances should the cone be reapplied.

For the removal of tonsils and adenoids, the author uses his modification of the McKenzie guillotine for the former and Gradle's modification of Casselberry's guillotine for the latter, when they are simply the enlarged third tonsils and centrally located in the vault. When the adenoids extend slightly beyond this area he employs Delstaunch's modification of the Gottstein curette, followed by the Kierstein curette.

The Cold Snare in Tonsillotomy.—MYERS (*Laryngoscope*, March, 1903) has for the past ten years employed the cold snare almost exclusively in the operation for the removal of tonsils, without the occurrence of a single serious hemorrhage, and believes it to be the ideal instrument for tonsillotomy. The advantages claimed by the author are that the snare is much easier to manipulate because of its size, that the loop can be adapted to any tonsil that requires removal, that it causes less damage to the faucial pillar and does more satisfactory work than any other single instrument.

The writer uses Dunn's snare with a much stronger handle and with a larger shank.

On the Treatment of Chronic Tonsillitis.—MOELLER (*Zeitschrift fuer Ohrenheilkunde*, Band xliv, Heft 1).—The most frequent method of treating chronic tonsillitis is that of tonsillotomy, but in many cases this cannot be done, especially when there is no hypertrophy present. Even when the tonsils are very small there may be sufficient crypts remaining for the chronic inflammation to be kept up.

Good results are obtained in the chronic lacunar form of tonsillitis by a scraping out of the crypts, followed by the application of astringents, or when the crypts are too deep, by slitting them Another form of treatment and one that has been neglected, viz., "morcellment," especially that of the upper part of the tonsil. This can easily be accomplished with Hartmann's conchotome. The upper part of the tonsil is in most cases the principal seat of the disease and its removal alone will effect a cure. When the tonsillotome is used the enlarged lower part of the tonsil is caught, while the upper part remains between the pillars of the fauces. That the upper part of the tonsil is the principal port of entry for the different infections is shown in the fact that the peritonsillar abscesses are always located in this region.

A Further Contribution Concerning the Cause and the Specific Treatment of Hay Fever.—DUNBAR (*Deutsche Med. Wochenschrift*, February 26, 1903).—In November, 1902, the author published a pamphlet on the cause and specific treatment of hay fever, in which he reports the results of his earlier investigations. He had succeeded in isolating from the pollen of certain grasses a toxic substance, which, when applied in very small quantities to the eyes or nostrils of people predisposed to hay fever, produced in a few minutes, in a more or less degree, the local symptoms characteristic to the disease, while the same quantity applied to the eyes and noses of people not predisposed had remained without any effect. He had also succeeded in producing an antitoxine by injecting the pollen of rye, maize and other grasses into the circulation of animals, such as rabbits, goats and horses. This antitoxine, when applied to the eyes or nostrils

of hay fever patients, in whom the symptoms had been produced by the toxine, would immediately cause their cessation. In this report the author states that he was able to obtain the toxine from twenty-one different grasses and has tried it on a number of persons predisposed to hay fever with the above results. He believes it to be a proteid, as it gives a proteid reaction. It has also been found that a toxine obtained from one variety of grass will be neutralized by the antitoxine obtained from a different variety, from which the author is inclined to believe that the toxines are identical. He also succeeded in producing the symptoms of hay fever not only by applying the toxine to the nose and eyes, but by injecting it into the arm of a patient. He found the pollen of roses and wormwood entirely inactive.

A Demonstration on Some Experiments on the Nature and Specific Treatment of Hay Fever.—SEMON (*British Med. Journal*, March 28, 1903).—With some of the toxine and antitoxine obtained from Prof. Dunbar, the author conducted some careful experiments on six persons, including himself, non-subjects of hay fever, and five hay fever patients, with the result that there was no reaction whatever in the first four, while in his own case there was some irritation and congestion of the conjunctiva, with an itching sensation in the nose. In the five hay fever subjects symptoms characteristic to the disease developed in all. The history of each case is given in detail. The toxine was diluted to 1-1000 in normal salt solution, and dropped in the eyes of the patients. After the symptoms appeared the antitoxine was then instilled, with the result that there was a cessation and disappearance of the symptoms.

The writer's conclusions are:

1. That there can be no doubt that Prof. Dunbar has succeeded in extracting from the pollen of certain grasses a toxine which, when instilled into the eyes or nostrils of people predisposed to hay fever, produces the characteristic symptoms of the disease.
2. The toxine, when injected into the eyes or nostrils of people not predisposed, produces in the majority no symptoms.
3. The effects of the toxine vary the same as there are different variations of the disease in different people.
4. The antitoxine produced a disappearance of the subjective and objective symptoms.
5. That in a mixture of equal parts of the toxine and antitoxine, the action of the former is neutralized.
6. That the effects of the antitoxine appear in some instances to suffice to prevent a reappearance of the subjective symptoms, while in others it requires repeated instillation to get a return to normal.

Whether the antitoxine will arrest a genuine attack of hay fever, and if the effect will be lasting, or whether the symptoms may return, is not known.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Operation on the Tendon of the Superior Rectus Muscle for Paresis of the Superior Oblique.—E. JACKSON (*Ophthalm. Review*, March, 1903).—In paresis of the superior oblique "the function of preserving normal relations between the two retinæ by the production of intorsion, and by preventing excessive extorsion" . . . "falls almost wholly upon the superior rectus." Displacing the insertion of the tendon of the superior rectus backward and outward (1) increases its power to cause

intorsion, (2) diminishes its power to cause upward rotation of the eyeball, (3) lessens its tendency to turn the eye in, (4) increases its power of acting with the inferior oblique to help turn the eye out.

Operation.—The conjunctival incision lies 8 mm. back of the cornea, and extends outwardly a little beyond the temporal margin of the tendon. After raising and isolating the tendon on a strabismus hook the suture is passed in the following manner: It is entered near the nasal margin and close to the insertion of the tendon, passed beneath the tendon a little backward and outward, made to engage the sclera at the point selected for the new attachment and again passed through the muscle from within out. The tendon is divided close to its insertion.

Two interesting cases are described.

Remarks Upon Certain Diseased Conditions of the Cornea.—G. HERBERT BURNHAM (*Ophthalm. Review*, March, 1903).—Conical cornea is due, in the writer's opinion, "to a certain impaired condition of the nervous system," and treatment by operation and glasses is, on this assumption, irrational. He advocates the hypodermic use of pilocarpin combined (when a more energetic effect is required) with iodide of potassium and mercury given internally. The consistent use of this method in a case of conical cornea raised vision from 9-200 to 20-100, at the same time improving the general health of the patient.

The Absorption Treatment of Cataract and Its Effects on the Eye.—J. W. WRIGHT (*Columbus Med. Jour.*, March, 1903).—Wright calls attention to the increasingly large number of patients taking the so-called "resolvent" or "absorption" treatment for cataract and corneal opacities, not infrequently on the advice of a physician. He has been led to question the reputed innocuousness of these preparations, in view of abnormal conditions of the cornea and vitreous encountered during cataract operations performed on individuals who had subjected themselves to the treatment. He has found the corneal tissue flaccid, sinking in centrally after the incision, the edges of which failed properly to coapt until the reformation of the anterior chamber. In several cases vitreous has been lost owing to abnormal fluidity.

Trichiasis as a Sequel to Excessive Deposition of Fat in the Eyelids.—A BOUCHART (*La Clin. Ophthalm.*, March 25, 1903).—The cases the writer has encountered have occurred in young Algerian women. The lids are puffed and droop, as in ptosis. A roll of fat situated in the subcutaneous tissue forms a projection near the free border of the lid and displaces the ciliary margin downward or even backward.

In the case described, Bouchardt removed a mass of fat as large as a pigeon's egg and then completed the operation according to the method of Panas.

Syphilitic Inflammation of the Extrinsic Ocular Muscles and Heart Muscle.—BUSSE and HOCHHEIM (*v. Graefe's Arch. f. Ophthalm.*, LV. Band, 2. Heft, 1903).—The patient, a female aged thirty-seven, developed, after exposure to cold, an edema of the legs, face and eyelids. Shortly afterwards there ensued a paralysis of all the extrinsic ocular muscles and of Levator palp. sup. sinistr. This was followed by the development of right optic neuritis and right exophthalmus. Syphilis was suspected and the patient was placed on potassium iodide and later mercurial inunctions. In the course of the treatment a right ptosis appeared. Three weeks after beginning treatment the patient, without warning or obvious cause, developed a tachycardia, the pulse running up to 240. This subsided in the course of a week, but recurred four weeks later, death supervening.

The autopsy showed an interstitial myositis and myocarditis which, in the absence of caseation and tubercle bacilli, could only be regarded as originating from a luetic infection.

MISCELLANEOUS ITEMS.

Death of Dr. John P. Bryson.—In the death of Dr. John P. Bryson, Professor of Genito-Urinary Surgery in the Medical Department of Washington University and Treasurer of the Faculty, Genito-Urinary Surgeon of the Staff of Mullanphy Hospital, the medical profession has lost a pioneer. Dr. Bryson was the first man in the West to specialize the genito-urinary branch of surgery, and was regarded as the father of that work in this part of the country.

Dr. Bryson was born at Macon, Mississippi, fifty-seven years ago. He came to St. Louis after the civil war and received his medical education at the Humboldt Medical College, later serving as interne at the city hospital. He was one of the organizers of the Genito-Urinary Department of the American Association of Physicians and Surgeons, and stood alone in this vicinity in his branch. He was a liberal contributor to medical literature.

Nothing could more emphasize the esteem in which he was held by his fellow-practitioners than the befitting memorial meetings of the medical societies of this city. Dr. Bryson was not only one of the foremost surgeons and teachers of medicine in the United States, but as a man and a physician he represented a type that would elevate the standard of any community.

Missouri State Medical Association.—The Missouri State Medical Association held its forty-sixth annual meeting April 21st, 22d, 23d, at Excelsior Springs. The meeting was one of the most successful in the history of the organization. The judicial council had worked industriously during the year for the success of the meeting and the fruit of their labor became manifest when it was found that sixty-one county societies had been organized and appeared for affiliation with the state association, making the total membership in the state association more than 1,200. This is a most gratifying showing and the profession of the state is to be congratulated that such a noble beginning is made in the direction of perfecting an harmonious and powerful organization of the medical men of the state. At this meeting the new constitution and by-laws were adopted which makes the state association an integral part of the American Medical Association.

Dr. Woodson Moss, the president, directed the affairs of the meeting in a most efficient and satisfactory manner. The program embraced papers of interest and importance, nearly all of which were read in full.

On Thursday evening a reception was tendered the members and ladies by the local profession. The large hall in the "Maples" was tastefully decorated and everybody enjoyed a most pleasant evening. Dr. Paul Y. Tupper, of St. Louis, acted as toastmaster and toasts were responded to by Drs. O. B. Campbell, C. Lester Hall, W. G. Moore, A. H. Meisenbach.

The officers elected for the ensuing year are: President, W. G. Moore, St. Louis; First-Vice President, O. B. Campbell, St. Joseph; Second Vice-President, T. N. Bogart, Excelsior Springs; Secretary, C. M. Nicholson, St. Louis; Assistant Secretary, E. J. Goodwin, St. Louis; Treasurer, J. T. Welch, Salisbury.

Delegates to American Medical Association: Drs. F. J. Lutz, St. Louis, W. B. Dorsett, St. Louis, and Jabez N. Jackson, Kansas City.

St. Louis was chosen as the place of meeting for 1904, which will occur on the third Tuesday in May.

Illinois State Medical Society.—The fifty-third annual meeting of the Illinois State Medical Society was held at Chicago, April 29th, 30th, and May 1st and 2nd. The meeting was one of the most enthusiastic in the history of the society and showed the progress of the organization of the medical profession, nearly every county in the state having organized its county society. A new constitution and by-laws were adopted placing Illinois in affiliation with the American Medical Association.

For the ensuing year the following officers were elected: President, Dr. Carl E. Black, of Jacksonville; Secretary, E. W. Weis, of Ottawa; Treasurer, E. J. Brown, of Decatur.

The American Medical Association.—The fifty-fourth annual meeting of the American Medical Association was held at New Orleans, May 5th, 6th, 7th, 8th. The association was divided into a business section—the house of delegates—and the scientific sections. In the house of delegates all business was transacted, leaving the work of the scientific section to go on uninterruptedly. The committee of arrangements perfected an elaborate program for the entertainment of the members and their families.. The attendance was much larger than at any other meeting in recent years. From both a scientific and social point of view the session was gratifying to all.

The officers elected for the ensuing year were: President, Dr. J. H. Musser, of Philadelphia; Vice-Presidents, Isadore Dyer, New Orleans; C. Lester Hall, of Kansas City; George C. Savage, of Nashville; Secretary and Editor, Geo. H. Simmons, of Chicago; Treasurer, H. P. Newman, of Chicago.

The place of meeting for next year will be Atlantic City, N. J.

BOOK REVIEWS.

THE DISEASES OF INFANCY AND CHILDHOOD. For the Use of Students and Practitioners of Medicine. By L. EMMET HOLT. Second edition, revised and enlarged. D. Appleton & Co. 1902. Pages 1161.

The second edition of Holt's well-known text-book presents about the same arrangement of matter as the first, though many parts of the work have been entirely rewritten.

The first, second and third chapters, dealing respectively with hygiene and general care of infants and children, growth and development, and peculiarities of disease in children, are especially interesting and valuable. Much space, naturally, is devoted to infant feeding. The various methods of artificial feeding and descriptions and analyses of various proprietary foods are given. It is noteworthy that the author, while condemning the prolonged use of any of the commercial foods, as substitutes for breast feeding, considers that they may be useful for short periods during derangements of digestion, when we wish to withhold all fat and milk proteids. He believes furthermore that those foods which require the addition of fresh milk in their preparation, may be useful, in that they furnish the additional carbohydrates required by an infant taking diluted cow's milk, thus taking the place of the milk or cane-sugar in the modifications.

The laboratory method of modification has given the author excellent results, but he naturally recognizes the necessarily limited sphere of its application. Methods of home modification are therefore given in detail. In the discussion of the various diseases which follows, one is struck particularly by the full description of the morbid anatomy of the various lesions. The anatomical drawings and plates add materially to the value of this feature.

A detailed review of all the special chapters is not possible here, nor is it necessary, because Dr. Holt's work is recognized as one of the standard text-books on pediatrics. It may be mentioned, however, that the author recommends tuberculin as a diagnostic aid in tuberculosis. This is in accord with the views expressed at the German Medical Congress at Carlsbad this summer. Dr. Holt believes that with proper precautions the use of tuberculin is perfectly safe. It is to be regretted that he does not specify more particularly as to these precautions, especially as to dosage.

The book is one that will commend itself to all practitioners interested in pediatrics, and one that will repay careful reading.

A MANUAL OF MATERIA MEDICA AND PHARMACOLOGY. By DAVID M. D. CULBRETH, PH. G., M. D. Third edition, 8vo, pp. 916. Lea Bros. & Co., Philadelphia and New York. 1903.

Apart from the mechanical side, the revision of a technical work, like the one in hand, means much more than is usually conceived by the reader. The account given of new material not included in former editions must be accurate and complete; the presentation of the old material must be improved. In both respects the volume under review deserves praise.

The arrangement of the drugs themselves is, as in the previous editions, based upon the principle of associating as nearly together as possible those substances, organic and inorganic, which have a common or allied origin, allowing those next related to follow in regular order. Vegetable drugs, therefore, appear in botanic sequence, beginning with the more simple, such as the algæ and fungi, and gradually proceeding to the more complex. Animal drugs are similarly classified, beginning with the insects and ending with the products of the higher

vertebrates. Organic drugs, carbon and synthetic compounds are arranged similarly, their chemical relationships being, however, always borne in mind.

The typography is excellent, the illustrations, too, being particularly satisfactory.

Ueber den Bau und die Entwicklung der Linse. Von Dr. Carl Rabl, Professor der Anatomie und Vorstand des Anatomischen Instituts der Deutschen Universitae Prag. Mit 14 lithographierten Tafeln und 132 Figuren im Text. Leipzig-Verlag von Wilhelm Engelmann. 1900.

In this monograph Professor Rabl has given us the results of his own investigations on the structure and development of the crystalline lens in amphibia, reptiles, birds, mammals, etc. The work was carried on under great difficulties, owing to political disturbances in Prague, the university being for a time under military protection; on one occasion the author's microscope and slides were with difficulty conveyed to a place of safety.

In spite of these drawbacks Professor Rabl has produced a splendid and exhaustive treatise which everywhere gives evidence of the most painstaking investigation. The illustrations are exquisitely drawn and supplement excellently well the elaborate descriptions of the author.

Die Verletzungen des Sehorgans mit Kalk und Aehnlichen Substanzen. Von Julius Andreae, Dr. Med. et Phil., Leipzig. Verlag von Wilhelm Engelmann. 1899. G. E. Stechert, New York.

Andreae's monograph embodies the various aspects of lime burns of the eye. That the subject is an important one and worthy of the exhaustive handling given by the writer is attested by the fact that lime burns are second only in frequency to those sustained by hot metals. Among the topics considered are: Action on the eye of various salts of lime; Manner in which the eye is injured; Clinical and anatomical sequelae; Origin and chemistry of alterations in the cornea after lime burns; Therapy and prognosis; Statistics; Accident insurance and prophylaxis.

315 references from the literature are cited.

Ueber die Behandlung innerer Blutungen mit Besonderer Beruecksichtigung der Gelatineanwendung. Von Boltenstern. Wuerzburger Abhandlungen as dem Gesamtgebiete der Praktischen Medizin. Vol. 3, No. 5. A. Stuber's Verlag, Wuerzburg. 1903.

In some thirty octavo pages the writer gives a brief resume of the present standpoint of gelatine therapy. The local use of gelatine unquestionably is of great hemostatic value. Its action when administered hypodermically is not quite clear, some physiologists having found that the coagulability of the blood is increased thereby, others having failed to obtain such a result. Clinical reports are accumulating, however, and show that gelatine unquestionably may produce good results in cases of sacculate aneurism, hemophilia and the like. The pain of the injection is much diminished if the gelatine is carefully neutralized and if too much is not injected into one spot. Pus infections and tetanus may be prevented if the gelatine is sterilized with the same care that obtains in bacteriologic laboratories. Overheating must, however, be avoided, as otherwise the gelatine loses its power of becoming solid on cooling and thereby, perhaps, its hemostatic action. The pamphlet contains nothing new, but presents a resume that may be valuable to those to whom the current literature is not accessible.

Die Technik der Lithothripsie. Vorlesungen von Prof. F. Guyon in Paris. Ins Deutsche uebersetzt, von Dr. Georg Berg. Mit 23 Abbildungen. Wiesbaden. J. F. Bergman. G. E. Stechert, New York.

The necessary manipulative delicacy required to perform litholapaxy justifies the translation of a work of this kind into a foreign language. Guyon is, perhaps, the leading genito-urinary surgeon in the world, and a complete and carefully arranged work from his pen needs no greater recommendation than his signature. A feature of the work lies in the last chapter, in which a resume of the whole operation is given and each step illustrated.

Diagnostic Gynecologique, Organes Genitaux et Mamelle. Par le Docteur Clado, Chef des Travaux de Gynecologie a l'Hotel Dieu, Ancien Chef de Clinique de la Faculte. Avec 109 figures dans le texte. Paris: A. Maloine, Editeur, 23-25 Rue de l'Ecole de Medecine. 1902. Price, 6 francs.

This book is the first of its kind in France. It is divided into three parts. The first part deals in detail with the various means to arrive at a gynecologic diagnosis. In addition to the usual modes of examination, the author lays special stress upon the advantages of hysteroscopy, and describes several instruments devised by him which afford a direct inspection of the uterine cavity. This method, originated by him and Duplay, has been adopted by several authorities in America, Germany, Austria and Italy. The author, in accord with most writers, rejects the indiscriminate use of exploratory puncture, and advises, instead, exploratory celiotomy, either per abdomen or per vaginam. The second part is devoted to a diagnostic consideration of affections of the genital organs. We consider the chapter on general phenomena subsequent to genital disorders especially praiseworthy. The third part of the book treats of the diagnostics of mammary diseases, the writer considering the female breast to be an annex of the genital system. Dr. Clado's work will prove of interest to the American gynecologist, who will only find fault with the inadequate illustrations.

La Naissance. Le Mariage et le Deces. Mœurs et Coutumes, Usages Anciens, Croyances et Superstitions dans le Sud, Ouest de la France. Par P. Cuzacq, Paris, Honore Champion, Libraire. 9 Quai Voltaire. 1902.

In this highly entertaining volume of two hundred pages the author describes the ancient customs, traditions, superstitions and ceremonies which are grouped around the main events of life (birth, marriage, death) in southwest France. Most of these old customs have disappeared, or are vanishing, before the progress of civilization, but there are still a great many left. Their origin is obscure. We believe the author deserves praise for this valuable contribution to the history of medicine, which will be of great interest beyond the limits of his native country.

Chirurgie des Ovaires et des Trompes. Par A. Monprofit, Professeur de Clinique Chirurgicale a l'Ecole de Medecine, Chirurgien de l'Hotel Dieu d'Angers. Avec 260 figures dans le texte. Paris: Institut International de Bibliographie Scientifique, 93 Boulevard Saint Germain. 1903. Prix, 15 francs.

It is with great satisfaction that we have perused this excellent treatise on the surgery of the ovaries and fallopian tubes. Careful and exhaustive studies of the literature of the world have enabled the author to give in this work a complete description of all operations which have been performed on the uterine appendages. Each operative procedure is treated in a separate chapter, which

comprises the history of the development of the operation, the technic, the results of the interference, including accidents, either during or after operation, and, finally, the indications and contra-indications. Special interest is afforded by part II, which deals with the modern conservative operations on the ovaries and tubes. We will, here, only refer to the intra-abdominal massage of the ovary, the author's own method, to oophorotomy and the fixation operations on the prolapsed appendages. We warmly recommend this book to all operators, and, furthermore, to the general practitioner who aims to gain a judgment of his own on the indications for operatve interference with lesions of the uterine adnexa.

PROGRESSIVE MEDICINE. Fifth Annual Series. Volume I, March, 1903. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, of Philadelphia. Octavo, handsomely bound in cloth, 450 pages, illustrated. Per volume, $2.50, by express prepaid. Per annum, in four cloth-bound volumes, $10.00. Lea Brothers & Co., Publishers, Philadelphia and New York.

It is only possible here to direct attention to the more important features in the present issue. Frazier, in the section on surgery, describes the progress which has been made in the surgery of the skull and brain. Herrick writes the section on infectious diseases. Crandall, in considering diseases of children, gives the latest advance in the methods of feeding and of milk modification. In the section of pathology, Dr. Hektoen devotes particular attention to the late studies into the specific properties of the various tissues and fluids of the body. A. L. Turner reports on the progress in laryngology and rhinology. The last article of the volume is written by Randolph, and is devoted to otology.

DIE CHLOROFORM UND AETHERNARKOSE IN DER PRAXIS. Von DR. KOBLANCK. Verlag von J. F. Bergmann, Wiesbaden. 1902. G. E. Stechert, New York, agent.

This little book of forty-two pages is written at the suggestion of the renowned surgeon, Professor von Bergmann, of Berlin. In a concise form it presents an exhaustive consideration of chloroform and ether anesthesia, dwelling upon the chemical and physiological effects of the two drugs, their special indications or contra-indications and the most commendable mode of their administration. This monograph will prove a reliable and useful resource in the responsibilities of every anesthetist.

THE CARE OF THE BABY. A Manual for Mothers and Nurses, Containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. CROZER GRIFFITH, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Physician to the Children's Hospital, Philadelphia. Third edition. Thoroughly revised. Handsome 12 mo. volume of 436 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co. 1903. Cloth, $1.50 net.

The fact of a third edition of this book being called for within such a short time is sufficient evidence of its popularity. Every part of the book has been carefully revised and brought fully in accord with the latest advances in the subject. Several new recipes have been included in the appendix, and a large num-

ber of new illustrations have been added, greatly increasing the value of the book to mothers and nurses. Physicians will find this an excellent book to place in the hands of mothers.

THERAPEUTICS OF INFANCY AND CHILDHOOD. By A. JACOBI, M. D., LL.D. Third edition. J. B. Lippincott Co. 1903.

In the preface to this new edition of his well-known work Dr. Jacobi remarks that the last four years have not added very much to pediatrics as a special science and art. Considering the enormous amount of special literature brought out in this period, this seems rather a severe arraignment from the Nestor of American pediatrists. And yet the justice of the remark strikes home if one but considers the status of one of the most important phases of the subject—that of infant feeding. The divergence of opinion is as great as ever, and will probably continue to remain so as long as infants insist upon being individualities, as Jacobi puts it. As in the other editions, one finds that Jacobi is still a great believer in the use of drugs. Indeed, one of the most valuable features of this book is that it represents the expression of individual opinion based upon actual (and enormous) clinical experience.

The general arrangement of the book remains as it was in previous editions, though the work as a whole has been revised and amplified.

Detailed criticism is, of course, impossible here; nor is it necessary. It is noteworthy, however (to single out one or two special conditions), that, under diphtheria, treatment is given in full, aside from the use of an antitoxin, of which Jacobi is, of course, an advocate.

The author is not convinced of the value of routine laparotomy in cases of tubercular peritonitis, a view in accordance with the latest expression of opinion on the subject from other sources.

As a whole, the book will doubtless continue to enjoy its immense popularity as one of our most valuable treatises on the treatment of diseases of childhood.

THE MANUAL TREATMENT OF DISEASES OF WOMEN. By GUSTAF NORSTROEM, M. D. Publisher: G. E. Stechert, New York. 1903. Price, $2.25.

This book embodies the results of thirty years' experience in the manual treatment of gynecological diseases. The author has published several books on the application of massage to gynecology, his first contribution to the subject having appeared as early as 1876, and he certainly must be regarded as one of the most competent judges on the efficacy of this therapeutic measure. This volume contains a history of gynecologic massage, a very clear description of its technic, its indications and contraindications, and, instead of illustrations as we are accustomed to find in all the modern text-books, the writer uses the histories of cases of his observation in elucidating his doctrines. Although we cannot concur with the author in his belief of the curative effect of the manual treatment in several of his cases, and will not accept all his views on the physiologic effect of massage, we gladly admit that his book affords interesting reading and is capable of materially increasing the number of friends of this most valuable therapeutic agent in the treatment of gynecological diseases.

PRACTICAL POINTS IN NURSING. For Nurses in Private Practice. By EMILY A. M. STONEY, late Superintendent of the Training School for Nurses, Carney Hospital, Boston, Mass. Third edition, thoroughly revised. W. B. SAUNDERS & CO. 1903. Cloth, $1.75 net.

In this volume the author explains the entire range of private nursing as distinguished from hospital nursing, and instructs the nurse how best to meet

the various emergencies of medical and surgical cases when thrown on her own resources. Much valuable information in a compact form is given in an appendix dealing with the feeding of the sick, containing recipes for invalid food and beverages, a dose list, and full glossary of medical terms.

There is no doubt that the work, in its third revised form, will maintain the popularity won by the earlier editions.

DISEASES OF THE SKIN. Their Description, Pathology, Diagnosis and Treatment, with Special Reference to the Skin Eruptions of Children, and an Analysis of Fifteen Thousand Cases of Skin Disease. By H. RADCLIFFE-CROCKER, M. D. (Lond.), F. R. C. P. Third edition, revised and enlarged, with 4 plates and 112 illustrations. P. Blakiston's Son & Co., Philadelphia. 1903.

The former editions of this work have been considered, in this country, as one of the best, if not the best, text-books upon dermatology in the English language, and this is saying a good deal when there are so many excellent treatises published. This edition places the work upon even a higher plane of excellence, as it is very much enlarged and improved, rendering it a most wonderful work indeed. The long experience of the author, together with his careful and scientific observations, have enabled him to become personally familiar with all the numerous diseases of the skin and their pathology. The book is replete with this personal element; it is writ upon every page, in every line, which is peculiarly refreshing in this day of quick compilation of books. Dr. Crocker is not afraid to express his opinion, and he is aware of its value. In his description of the various diseases he pays especial attention to their variations, thus drawing from the wealth of material he has enjoyed for years.

The few typographical errors detract little from the book, neither do the rather poorly executed illustrations, as there are so many other admirable features to commend it. No medical library can be complete without this classic, for it is a work which sheds honor upon the subject of dermatology, upon its author and publishers.

IMMUNITAET UND IMMUNISIRUNG. HOPF. Eine medizinisch-historische Studie. Tuebingen. Pietzker. 1902. G. E. Stechert, New York.

In this little work a good review of the historical evolution of our knowledge on immunity and immunization against toxins and poisons, against infectious diseases, and on the character and nature of immunity is given. The book is written for readers who without possessing special knowledge want to be elucidated about the problems that play today such an important part in the realm of biologic investigations.

BACTERIOLOGISCHES PRAKTIKUM. Fuer Apotheker und Studierende. Von JOHANNES PRESCHER und VICTOR RABS. Wuerzburg. Stuber's Verlag. 1903. G. E. Stechert, New York.

This little book contains short directions for the examination of urine, blood gastric contents, feces, sputum, water, milk, butter and margarine. It counts 112 small pages. It is characteristic that it is intended to be subservient to the benefit of druggists and students. It contains directions (half page) for the examination of cholera and typhoid material, a task before which the most experienced bacteriologist hesitates, in view of the immense responsibility. Books like this do not serve any purpose but to propagate charlatanry and superficiality.

TASCHENBUCH FUER DEN BACTERIOLOGISCHEN PRAKTIKANTEN. Von RUDOLF ABEL. Wuerzburg. Stuber's Verlag. 1903.

The volume is well known and appreciated. The new edition contains additions and changes corresponding to the progress of bacteriology and is in every respect up to date. New chapters have been added, among these one on the procuring of material for examination. If one wish can be expressed, it is that in a following edition this chapter be extended to the including of the methods of obtaining blood intra vitam from the different animals used for experimentation. None of the more recent books on bacteriologic methods enters into this very important subject. Abel's Taschenbuch will remain a favorite in the bacteriologic laboratory.

DIE ARZNEIMITTEL DER HEUTIGEN MEDIZIN MIT THERAPEUTISCHEN NOTIZEN. ZUSAMMENGESTELLT FUER PRAKTISCHE AERZTE UND STUDIERENDE DER MEDIZIN. VON DR. OTTO DORNBLUETH. Neunte Auflage. Wuerzburg: A. Stuber's Verlag (C. Kabitzsch). 1903. G. E. Stechert, New York.

This little volume, of a size readily slipped into the pocket, is a continuation of the annually revised book with a similar title, formerly edited by O. Roth and G. Schmitt. After a few short chapters devoted to the systematic grouping of materia medica, to a sketch of hydriatic and dietary procedures and the like, an alphabetical list of all the drugs used in modern medicine is given, with origin, therapeutic usefulness, toxicology and dose of each. In many cases, where the method of administration is not indifferent, specimen prescriptions showing how the drug may be most efficiently or most palatably given are appended. While those remedies of the old materia medica that are still often used are not neglected, most space and attention has been given to the newer remedies—and it is in this field that the little book is most valuable and complete. It is astonishingly up-to-date. Thus it contains an account of rodagen and of roborat-anamyl bread, two of the most recent additions to our therapeutic armamentarium. We are informed that anesthesin, eucain A., and the notorious antimorphin have been withdrawn from the market. A therapeutic summary and a number of tables close the valuable little volume

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioners' Index. Pages 739. Illustrated. New York: E. B. Treat & Co. 1903.

With this issue the Medical Annual reaches its twenty-first year. It presents, as did its predecessors, a well-ordered synopsis of the year's progress. In it will be found a discussion of all the more important advances in medical knowledge, while on the other hand little effort seems to have been made in recording matters of disputed value. Thus no mention is made of the treatment of Grave's disease by means of the milk of thyroidectomied goats or of the active principle of this milk called rodagen. Anesthesin, theocin, mesotan and other synthetic products that promise to be of value are not mentioned. Completeness would, however, demand a much larger volume, and on the whole the question as to what should be included and what excluded has been satisfactorily solved.

INTERNATIONAL CLINICS. Vol. III. Twelfth Series. Philadelphia: J. B. Lippincott Co. 1902.

As usual, this number of the International Clinics contains a number of very interesting and valuable articles, and fully maintains the high standard set up by its predecessors. Two of the most interesting lectures are at the end of the volume—one on the function of the digestive glands, based on the researches

of Prof. Pavlof and his pupils; and another, a critical study of the theory of inflammation, by Hans Schmaus. James J. Walsh contributes a study of the insect pests of human beings, illustrated by well-selected cuts, chiefly from the Fifth Bulletin of the Department of Entomology. Is it due to a printer's error that he recommends a fifty (*sic*) per cent. solution of carbolic acid? In a report of a case of leucemia following an attack of malarial fever, the common mistake is made of interpreting a history of chills and fever preceding the discovery of the leucemia as a malarial infection. The early stage of the leucemia itself is quite able to produce rigors and fever such as are usually supposed to be characteristic of malaria. In two interesting articles G. M. Debore and Prof. Cardarelli advocate the more frequent employment of surgical intervention in persistent gastrectasy. One of the most valuable chapters is an article by Prof. Brinton on some effects of fire-arms at short range, admirably illustrated. The volume will well repay perusal.

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